JULY 12, 1952

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

LEGISLATIVE REFERENCE SERVICE
AUG 25
RECEIVED

IN THIS ISSUE

Report on Atlantic City . . .

Track Exhibit . . . . . p. 94

•

Mechanical Division . . . . p. 98

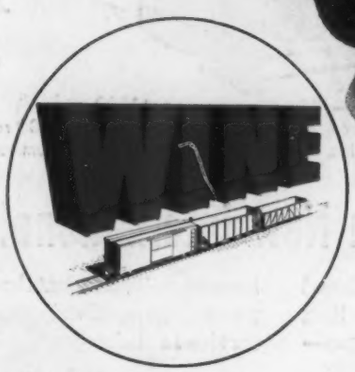
•

Purchases & Stores Division . . . . p. 104

•

Electrical Section . . . . . p. 106

PREVENT LOSS of LADING!



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ALWAYS POSITIVE DOOR FIT!

THE WINE RAILWAY APPLIANCE CO. TOLEDO 9, OHIO

NEW, Power-Packed AND READY TO GO!

NEW U-1091 natural gas power unit develops 187 net h.p. at 1400 rated r.p.m.; 200 net h.p. at 1600 max. r.p.m.; maximum torque, 820 lbs. ft. @ 800 r.p.m.

NEW U-450—102 net horsepower at 1800 rated r.p.m.; 110 @ 2200 r.p.m.; maximum torque, 324 lbs. ft. @ 1200 r.p.m.

NEW U-406—91 net horsepower at 1800 rated r.p.m.; 98 @ 2200 r.p.m.; maximum torque, 279 lbs. ft. @ 1200 r.p.m.

NEW U-372—83 net horsepower at 1800 rated r.p.m.; 91.5 @ 2200 r.p.m.; maximum torque, 263 lbs. ft. @ 1200 r.p.m.

NEW U-269—62 net horsepower at 1800 rated r.p.m.; 72 @ 2400 r.p.m.; maximum torque, 191 lbs. ft. @ 1200 r.p.m.

NEW U-240—55 net horsepower at 1800 rated r.p.m.; 64 @ 2400 r.p.m.; maximum torque, 168 lbs. ft. @ 1200 r.p.m.

NEW U-220—50.5 net horsepower at 1800 rated r.p.m; 62 @ 2400 r.p.m.; maximum torque, 151 lbs. ft. @ 1200 r.p.m.

IH Announces Seven New International Engines

Seven new six-cylinder, carbureted, valve-in-head engines have been added to the International line, which now includes 18 models—diesel, gasoline or gas—ranging from 16.5 to 200 net horsepower.

These new models are the result of more than 45 years of IH engineering and manufacturing experience building a complete line of heavy duty engines for tractors, trucks, construction and oil field equipment and individual power unit applications.

These new units have the durability, flexibility and economy to meet your requirements for lower cost performance. The unmatched network of IH district offices, parts depots, distributors and dealers puts complete service facilities practically at your door.

If you are an individual user of engines, it will pay you to see your nearest International Industrial Distributor or Power Unit Dealer for more complete information. If you are a manufacturer, your nearest IH district office will be glad to help you engineer these engines into the equipment you are building.

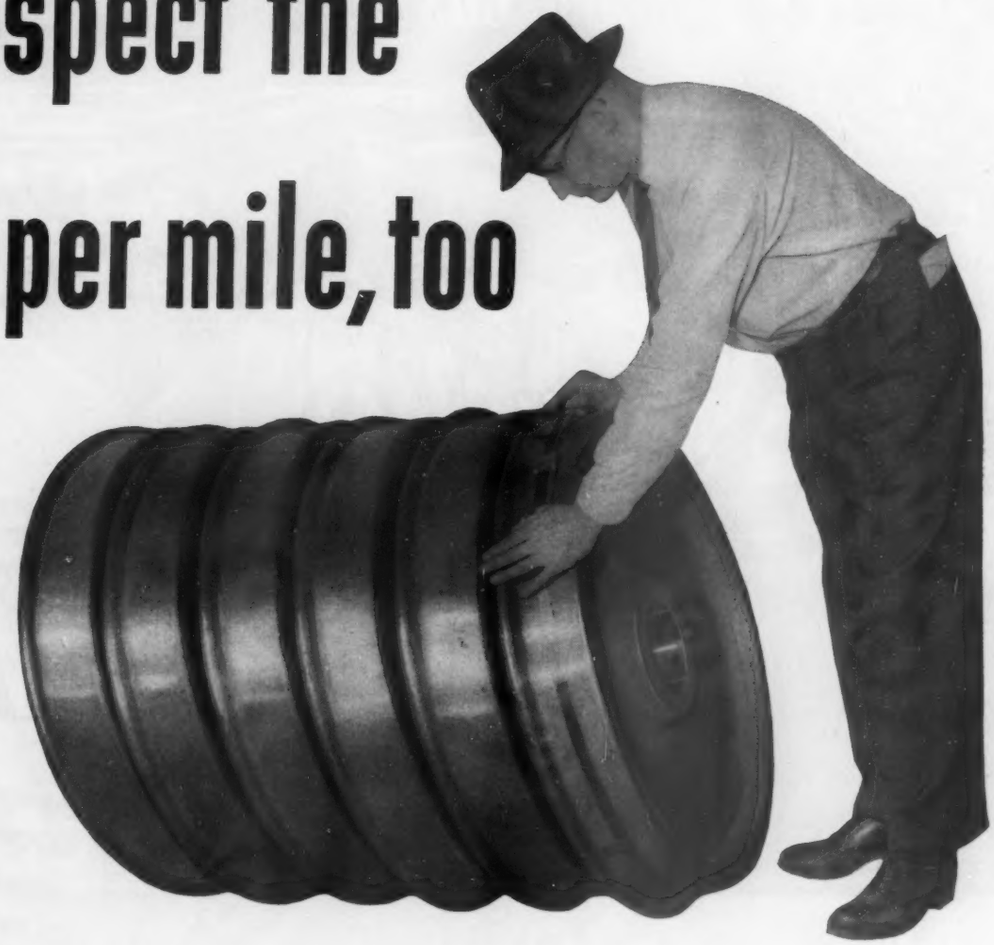
INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILL.

POWER THAT PAYS

INTERNATIONAL HARVESTER

INTERNATIONAL

Inspect the cost per mile, too



Most people are apt to accept the hard-working freight-car wheel as a matter of course. But we doubt that you yourself take any such casual view. Nor do your inspectors, who go about their job carefully, checking every detail.

For more than a quarter-century Bethlehem one-wear freight wheels have been passing these rigid inspections, and this, we believe, is pretty strong evidence of a good product. But inspection doesn't tell the whole story. The rest must be left to your records. When you purchase a Bethlehem one-wear freight wheel, you are purchasing mileage, high and useful mileage for every dollar spent. The inspector sends the wheel on its way. Only your service records can show how tiny the cost for every mile it spends on the rails.

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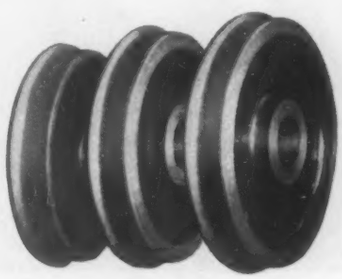
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

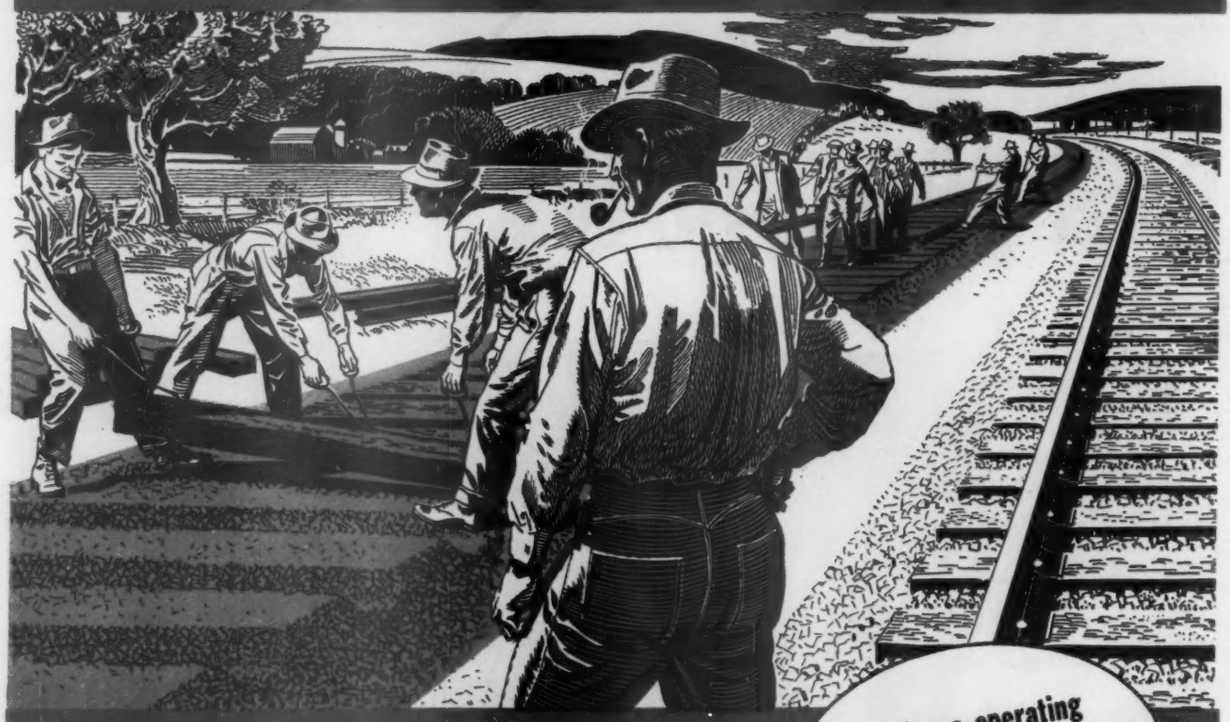
BETHLEHEM WROUGHT-STEEL WHEELS

COMPANIONS TO BETHLEHEM FORGED-STEEL AXLES

FREIGHT • PASSENGER • DIESEL



They're digging out COSTS... along with the track



A SINGLE TRACK WITH UNION C.T.C.

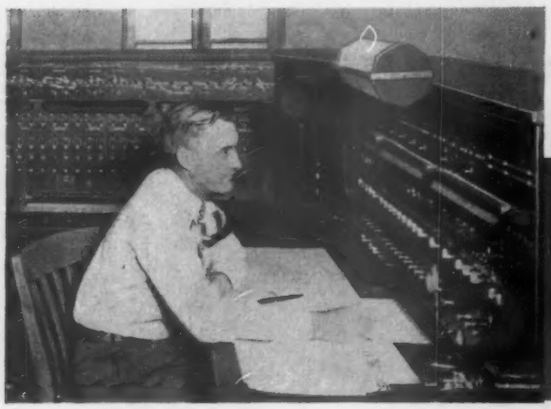
Reduces operating expenses

Conserves costly, vital materials

HERE'S ONE RECORD*

1. Provided a more economical track and signal layout for existing traffic.
2. Reduced annual operating expenses $39,229.00 per year.
3. Provided other savings and salvage totaling —$295,744.00.
4. Released track and signal material for use at other points.
5. Reduced the trackage required for meets and passes.
6. Eliminated necessity for future track renewal on track abandoned.

*Factual data will be supplied on request.



"UNION" Centralized Traffic Control can reduce terminal-to-terminal time with safety and pay its way through reductions in operating expenses. May we help you?

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

PUBLISHED WEEKLY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION AT ORANGE, CONN., AND ENTERED AS SECOND CLASS MATTER AT ORANGE, CONN., UNDER THE ACT OF MARCH 3, 1879. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA. EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 79 WEST MONROE STREET, CHICAGO 3, ILL. BRANCH OFFICES: 1081 NATIONAL PRESS BUILDING, WASHINGTON 4, D. C.—TERMINAL TOWER, CLEVELAND 13, OHIO—TERMINAL SALES BUILDING, PORTLAND 5, ORE.—1127 WILSHIRE BOULEVARD, LOS ANGELES 17, CAL.—244 CALIFORNIA STREET, SAN FRANCISCO 11, CAL.—2909 MAPLE AVENUE, DALLAS 4, TEX.

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July 13, 1953 Vol. 135, No. 2

Week at a Glance

Oral Argument before the I.C.C. on the railroads' plea for a permanent Ex Parte 175 rate increase took place last week. 11

Where Railroads Lose perishables traffic to trucks is revealed in two recent studies by the Department of Agriculture. 11

A Complete Study of mail transportation is being undertaken by the Post Office Department to determine the "most appropriate and economical methods." 13

A New Transportation Museum — containing historic locomotives, locomotive replicas, paintings, models and other railroad material, has been opened by the B&O in its Mt. Clare shop area at Baltimore. 14

Five Months' Net Income of Class I railroads, this year, is estimated at $338 million, compared with $260 million through May last year. 14

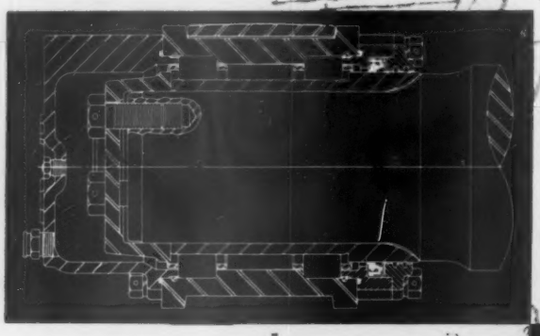
A New Railroad, American built and equipped, is now in service in the West Indian island of Jamaica, hauling bauxite from mines to tidewater. 112

RAILWAY AGE FORUM

The Railroads and the Electric Power Industry, while not precisely identical, have many points of striking similarity to each other. What accounts for the latter's remarkable success in the face of handicaps which seem closely to parallel those confronting the railroads? 79

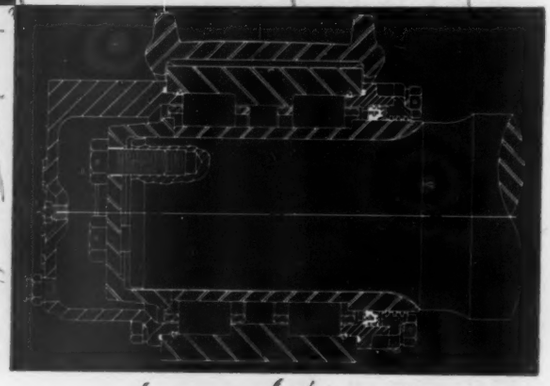
"It Is a Constructive Approach for the spokesman of any agency of transportation when he interprets his situation in terms of the transportation function as a

2 Hyatt designs to solve your freight car hot box problem!



HYATT "PACKAGE" TYPE BOX shown opposite is for use in integral box side frames originally designed for plain bearings. Boxes are available in all standard journal sizes.

HYATT PEDESTAL-TYPE BOX shown below is designed to fit directly into a pedestal-type side frame. Boxes are available in all standard journal sizes.



Whether you are ordering new freight cars or converting old cars, Hyatt is ready to help you eliminate the tremendous cost of hot boxes. For Hyatt offers two easily-installed roller bearing journal boxes—one designed for freight car trucks having pedestal-type side frames, the other for trucks with integrally cast side frames.

With either of these Hyatt boxes you will gain maximum return on your investment. In addition to obvious economies—elimination of the hot box problem, greatly reduced inspection man-hours, huge savings in lubrication costs, reduced damage to lading—Hyatts for freight offer basic design advantages.

ONLY HYATT OFFERS THESE *EXTRA* ADVANTAGES

Controlled lateral—Hyatt design allows freedom of axle movement through the bearing, thus cushioning shocks, minimizing wear on wheels and truck parts, and reducing the possibility of damage to lading.

Press fits are not disturbed when boxes are removed for inspection.

Quick and easy inspection down to individual rollers—the result of Hyatt's simplicity of design.

Reduced inventory is possible because spare axles and wheels need to be fitted with inner races only.

Straight radial rollers of large size provide for maximum load-carrying capacity and longer usable life.

For further information, write to Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

RUNNING MATE OF DIESEL FREIGHT

HYATT

Roller Bearing Journal Boxes

Current Statistics

Operating revenues, five months	
1953	$ 4,402,826,098
1952	4,306,097,045
Operating expenses, five months	
1953	$ 3,333,902,343
1952	3,354,709,662
Taxes, five months	
1953	$ 528,215,942
1952	506,471,365
Net railway operating income, five months	
1953	$ 448,770,942
1952	374,463,064
Net income, estimated, five months	
1953	$ 338,000,000
1952	260,000,000
Average price railroad stocks	
July 7, 1953	65.52
July 8, 1952	63.58
Car loadings revenue freight	
Twenty-six weeks, 1953	18,928,626
Twenty-six weeks, 1952	18,535,925
Average daily freight car surplus	
July 4, 1953	32,667
July 5, 1952	30,320
Average daily freight car shortage	
July 4, 1953	5,020
July 5, 1952	3,640
Freight cars delivered	
May 1953	6,582
May 1952	6,857
Freight cars on order	
June 1, 1953	57,345
June 1, 1952	103,910
Freight cars held for repairs	
June 1, 1953	94,321
June 1, 1952	100,854

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX AND BY THE ENGINEERING INDEX SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

Departments

Traffic	11
Figures of the Week	14
Accounting	16
People in the News	16
Law & Regulation	17
Current Publications	62
What's New in Products	71
Benchmarks & Yardsticks	77
Competitive Transport	117
Labor & Wages	119
Operations	119
Organizations	119
Public Relations	119
Equipment & Supplies	121
Supply Trade	121
New Facilities	123
Securities	127
Financial	128
Railway Officers	128

Week at a Glance CONTINUED

whole"—as the president of Trans World Airlines did in a recent speech in California. 80

Another Modern Freight Yard is under construction at Bensenville, Ill., where the Milwaukee is converting its former flat-switching yard to a retarder-classification facility. 81

Livestock Dines in Style when it is fed and rested at the Union Pacific's new stockyard and feeding station at Cheyenne, Wyo. 86

"Tell Us How You Like Our Train," the SP said to "Shasta Daylight" passengers in its third survey of customer reaction. That this third survey showed no significant shift in opinion is, the road feels, encouraging; it indicates that the train is successfully maintaining its "initial high level of public acceptance." 88

What Can Railroads Sell But Service? A traffic reader raises that question; gives some of his reasons for doing so; and makes some suggestion as to how service can be sold. 91

The Track Exhibit— at which there were displayed cars and locomotives worth over $3 million — drew large and enthusiastic crowds during the Atlantic City conventions in June. 94

Among the Convening Organizations whose meetings brought about that exhibit and the concurrent indoor exhibit were three units of the A.A.R.:

Mechanical Division 98
Purchases & Stores Division 104
Electrical Section 106

Railroad Cars Floating on Air may be a near-future reality, following joint development by the General Tire & Rubber and Timken Roller Bearing Companies of a pneumatic cushion spring. 109

Three "Workshop Sessions" of the Railway Systems and Procedures Association, held recently at Chicago,

Week at a Glance CONTINUED

considered freight traffic statistics, billing of freight car repairs, and punched-card mechanical abstracting for interline-received carload traffic. 110

BRIEFS

Railroad Data, fortnightly news sheet of the Eastern Railroad Presidents Conference for the past 32 years, was discontinued after the June 5 edition. The publication's somewhat informal presentation of news and comment about railroading made many friends for the industry. The conference has expressed itself as hopeful that the public information program it plans to inaugurate will continue to expand the circle of railroading's friends.

Total Net Claims paid by U. S. scheduled air carriers for loss or damage to air freight in 1952 amounted to only three-fourths of a cent on every dollar of freight revenue received, according to the Air Transport Association of America. It was pointed out that the results were noteworthy because nearly all air-freight shipments are in the less-than-truckload or less-than-carload category and, as such, are more susceptible to loss or damage.

"As Substantial Taxpayers in Various States, the railroads are entitled to express their views on the extensive damage to public roads caused by large, overweight trucks, and on the failure of the operators of these heavy commercial vehicles to pay their fair share of the cost of building and maintaining highways and to contribute adequately to the support of schools and government. Furthermore, since the railroads and the truckers are in vigorous competition for transportation business, it is entirely right that railroads should object publicly to either open or hidden subsidies enjoyed by their competitors and financed to some extent by the taxes which the railroads pay."—*From a report by a committee of stockholders of the Pennsylvania.*

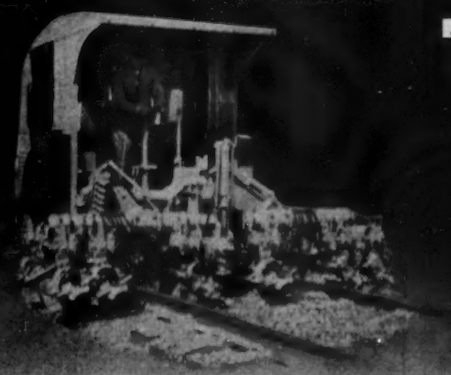
Railroads Could Weather, as successfully as any other industry, any probable business recession, in the opinion of C. M. Roddewig, president of the Chicago & Eastern Illinois. As reasons for his optimism, Mr. Roddewig cited the efficiency "built in" to the railroad plant in the past 15 years, plus the close control which can now be exercised over operating costs. At the same time, Mr. Roddewig told the New York Society of Security Analysts, there is room to "breathe in" still more efficiency.

Grade Crossing Safety has a novel twist in certain rural districts in Germany. Little-used country lanes, field access roads, etc., have barriers (gates) permanently lowered for protection of railway traffic. When a motorist wishes to cross the tracks, he is directed by a sign to use an adjacent loudspeaker system which connects him with the dispatcher or local operating office. That office then opens the barriers for passage or advises the motorist how long it will be until the line is clear to cross.

"Very Substantial Progress has already been made and our footprints are plainly visible in new tariffs which have been rolling off the presses in recent months. All credit for this progress is due to the [National Industrial Traffic] League representatives and railroad executives who have given so unselfishly of their time and talents to give our program direction and effectiveness. Any solution we put forward is nothing more than a 'brainchild' until this joint committee puts its approval stamp on it and thus breathes life into it."—*From an address by Charles S. Baxter, chairman, Railroads' Tariff Research Group, to New York Chapter, Delta Nu Alpha transportation fraternity.*

... for maintenance and construction

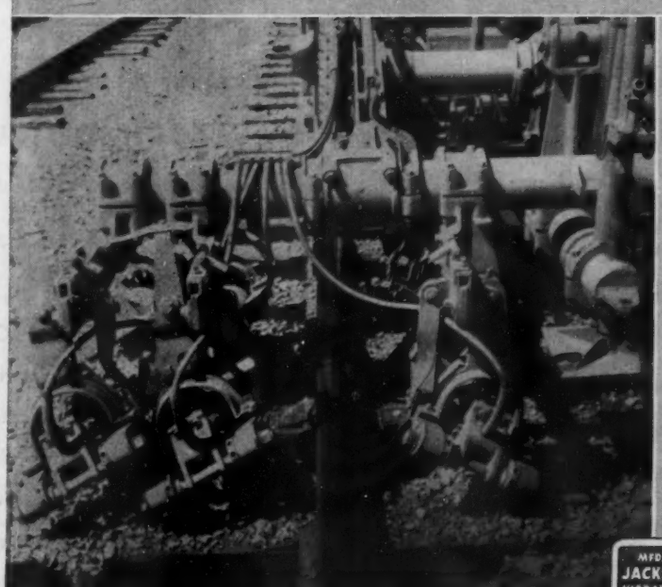
JACKSON MULTIPLE TAMPERS



. . . long ago established a standard of uniformity and excellence of tie tamping which remains unmatched today.

Moreover, in any ballast and in any lift, from that which is slightly lower than the average size of the ballast to the very highest, Jackson Multiple Tie Tampers will put up perfect track at less cost than can be achieved by any other means.

These are facts which you can verify on your own line. We will be glad to place a Jackson Multiple with you on a rental basis, with rental to apply on optional purchase.



MFD BY JACKSON VIBRATORS INC. LUDINGTON, MICH.

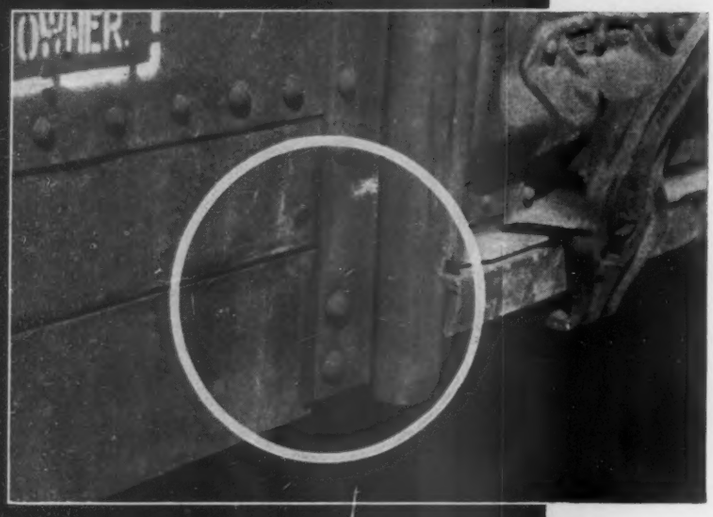
RIGHT UNDER THE RAIL

WAY UNDER THE TIE

Sold in U.S.A. by ELECTRIC TAMPER & EQUIPMENT CO. Ludington, Mich.

International

NEW PRECISION IN FREIGHT CAR CONSTRUCTION



Fracture and Progressive Separation at Door Post.

SIDE-SILL UPPER ELEMENT BECOMES AN INTEGRAL PART OF THE UNDER-FRAME
DOUBLE-FLANGE PANEL WELDED DOOR-POST
FLOOR LEVEL AT SILL HEIGHT KEEPS MOISTURE FROM SIDES
SIDE-SILL UPPER ELEMENT FORMS THRESHOLD PLATE IN DOORWAY

SCHEDULES GET FASTER AND FASTER...

NO ONE CONSIDERS HOLDING A SCHEDULE DOWN TO MATCH OUT-DATED CARS—*THEY EXPECT CAR DESIGN AND CONSTRUCTION TO MATCH TODAY'S PACE!*

Progress is impatient—it has no use for those who lag behind. PROGRESS IS JUST WHAT THE NAME IMPLIES—and it *will* keep moving forward with a relentless pace. The only solution is to *keep moving with it. International Steel's new precision* in design and construction is staying a step ahead! Cars and components such as sides, underframes, doors, etc., designed or constructed by *International will never hold down a schedule*—nor will they be out of service for repairs due to inadequate design or out-dated construction! *An International car is on the line . . . all the time!*

INTERNATIONAL STEEL COMPANY — RAILWAY DIVISION
EVANSVILLE 7, INDIANA

Roads Ask "Permanent" Rate Hike

Carrier plea is to extend Ex Parte 175 increases beyond February 1954—Insist costs remain high

Rate increases authorized in Ex Parte 175 are due to expire next February, yet conditions which required those increases face no such termination, E. H. Burgess, vice-president and general counsel of the Baltimore & Ohio, told the Interstate Commerce Commission last week.

Representing the industry, Mr. Burgess made the opening presentation as oral argument began in the latest phase of Ex Parte 175. The railroads are asking the commission to continue the "175" increases beyond February 28, 1954. The roads also want to incorporate the increases, now published as surcharges, into the basic rate structure.

With no prospect for a drop in costs the railroads have "no economic alternative" but to seek continuation of present rates, Mr. Burgess declared.

The B&O vice-president went on to say that in the 12 months ended April 30, 1953, the railroad rate of return averaged 4.3 per cent, and for the 1953 calendar year the return is estimated at 3.94 per cent. He called this "subnormal"—on any rate base used.

Those opposing continuation of the "175" increases take the position that there has been an improvement in railroad earnings, Mr. Burgess said. He pointed out this was the purpose of the original increase, and said the proper question before the commission is that of examining the present level of railroad earnings. He said present and prospective earnings are "modest and far from unreasonable."

Mr. Burgess outlined the present issue as a simple one: Have conditions which justified the increases up to February 1954, so changed as to make them unreasonable after February? He argued that no such changes have occurred.

The Ex Parte 175 increases, approved by the I.C.C. in April 1952, raised the average rate level 13.8 per cent on a nationwide basis.

The railroad counsel declared that present uncertainty impairs carrier credit and hampers management in efforts to program capital improvements. He said the present rate structure must be made permanent if the capital improvement program of the railroads is to continue.

Joining Mr. Burgess in presenting the railroad case were H. C. Barron, E. A. Kaier and Jervis Langdon, Jr., representing western, eastern and southeastern roads, respectively.

Mr. Barron advised the commission that Ex Parte 175 increases caused "no substantial diversion" of traffic from the railroads. He said the Agriculture Department has opposed the increases on grounds they would hamper farm production—yet farm production in 1952 reached an all-time high.

Effect of the rates on coal traffic was handled by Mr. Kaier, general attorney for the Pennsylvania. He said the 1952 rate increase had "no appreciable effect" on sales of coal, and said last year's decline in coal production was due to other factors.

Mr. Langdon told the I.C.C. that "income needs" of southern railroads require that "175" rate increases become a part of the regular rate structure. If they lapse it would cause a deterioration in "what railroad credit there is in the South," he said.

The oral argument, which began July 8, was expected to continue the remainder of the week. The railroads were allotted four hours to present their case, while other parties in the case, the opponents, were allocated a total of 10 hours, 20 minutes

Traffic

Where RRs Lose Traffic to Trucks

Department of Agriculture studies on "diversion" of fresh fruits and vegetables show 5 per cent loss to trucks in short period 1948 to 1951

Were it not for diversion to trucks, the railroads in 1951 would have carried 12,000 more carloads of eight selected fresh fruits and vegetables to 10 of the country's largest markets than they actually did, says a U. S. Department of Agriculture special study on truck-rail participation in fruit and vegetable haulage. This means that in 1951, to the 10 markets selected for study, the railroads in 1951 hauled 5 per cent fewer carloads than if they had held the same share of the market they possessed in 1948—three years before.

As indicated in the accompanying table—which shows the number of carloads to the 10 selected markets by rail and truck, broken down by states of origin—certain states, like New Jersey and Pennsylvania, have turned almost wholly to truck transportation, in view of the fact that their major markets are within short-haul range. This table shows that between 1948 and 1951 diversion from rail to truck was heaviest in Virginia.

The department study, titled "Trucks Haul Increased Share of Fruit and Vegetable Traffic," and dated April 1953, observes that there is a "tendency for shippers to use either railroads or trucks almost exclusively for movement to any one market" and that "once diversion from rail to truck has reached a substantial volume between any producing area and market, it apparently continues until most of the movement goes by truck."

An opposite trend was found in movement of citrus fruits from Florida to Chicago following the sharp reduction in railroad rates made in 1950. Here the railroads gained 391 carlots of oranges and 371 carlots of grapefruit in 1951, which they did not haul in 1948.

Trucks May Continue Gains

The study ventures the opinion that trucks will probably continue to gain traffic at the expense of railroads, unless competitive conditions are changed. For example, California and Arizona supplied nearly 90 per cent of all lettuce unloaded at the 10 selected markets during 1951. Except for Pacific Coast markets, destinations are far distant from origins. Railroads carried virtually all the long distance traffic in 1948; but now trucks are entering the continental field. In 1951, for example, trucks carried the equivalent of 29 railroad carloads of lettuce from California to Chicago; five to New York; five to Philadelphia; and two each to St. Louis and Atlanta. "Apparently, even transcontinental

How Eight Fresh Fruits and Vegetables Moved to Ten Major Markets in 1951 — With Estimated Diversion from Rail to Truck Compared with 1948

State of origin	1951 unloads*			Estimated diversion from rail to truck, 1948 and 1951	
	Rail	Truck	Total	Unloads	Percentage of 1951 total unloads
	Carlots	Carlots	Carlots	Carlots	Per cent
California	47,091	49,555	96,646	319	*
Idaho	11,968	1,020	12,988	795	6
Washington	7,463	2,883	10,346	1,027	10
Arizona	5,915	2,129	8,044	102	1
Florida	31,374	11,710	43,084	4,832	11
Texas	3,119	281	3,400	134	4
Virginia	285	3,453	3,738	1,293	35
North Carolina	17	1,423	1,440	33	2
Georgia	38	720	758	15	2
New York	734	20,479	21,213	751	4
Maine	11,289	1,088	12,377	345	3
New Jersey	42	7,200	7,242	24	+
Pennsylvania	33	5,250	5,283	16	+
Michigan	5	2,979	2,984	400	13
Wisconsin	2,102	776	2,878	536	19
Illinois	19	2,257	2,276	40	2
Canada	1,468	235	1,703	165	10
Mexico	1,842	599	2,441	286	12
Other	10,425	7,444	17,869	890	..
Total	135,229	121,481	256,710	12,003	5

* Based on unloads of oranges, grapefruit, apples, potatoes, tomatoes, lettuce, cabbage, and celery at Boston, New York, Philadelphia, Washington, Atlanta, Cleveland, Chicago, St. Louis, San Francisco, and Los Angeles.

+ Less than 0.5 per cent.

movements may become vulnerable to diversion, although the actual volume diverted so far has been negligible."

Regarding the long term, the study sees certain inherent advantages in railroad transportation. "Lack of cold storage facilities by certain receivers is a further offsetting factor to this general trend to trucks in the marketing of highly perishable commodities such as celery and escarole. Commodities hauled by truck must be unloaded and sold or placed in storage upon arrival, whereas refrigerator cars may be switched to a team track and commodities sold direct from cars."

Further evidence of the extent to which trucks already dominate the short haul of many agriculture commodities is pointed up in another study by the Bureau of Agricultural Economics of the Department of Agriculture, covering movement of 10 selected fruits and vegetables to eight major markets. This study shows, among other things, that trucks accounted for about half the total "unloads" at these markets in 1950—and that the truck share was clearly related to distance.

"In 1950 trucks hauled virtually the entire volume of the selected commodities from supply sources that were less than 100 miles from market. When hauling distance ranged between 100 and 499 miles, about four out of five carlots came to market by truck," the study revealed. But when distance to market exceeded 499 miles, truck hauls dropped sharply. Between 500 and 999 miles, trucks accounted for only one out of three carlots. In distances of 1,000 miles and more, the truck share was one out of 10.

Truck hauls of many fruits and vegetables tend to be relatively short, the study reported. Average length of truck haul for the 10 commodities was 275 miles in 1941; in 1950 the average haul was 325 miles. There was wide variation between commodities.

Rates, Service Key to L.C.L. Problem

Chicago Traffic Club forum on "Small Shipments Problem" airs views of shippers and carriers—Shippers want lower rates, better service; carriers, higher rates, better service

What to do about small shipments was thoroughly reviewed, in the Traffic Club of Chicago's second transportation forum, June 25, by a five-man panel consisting of T. C. Burwell, vice-president—traffic, A. E. Staley Manufacturing Company; J. M. Cody, general traffic manager, Butler Brothers; K. N. Merritt, vice-president—traffic, Railway Express Agency; A. K. Scherer, president, Scherer Freight Lines; and H. W. Von Willer, vice-president—traffic, Erie. Moderator was A. H. Schwietert, traffic director of the Chicago Association of Commerce and Industry.

"I believe it is typical of the motor truck industry that there has been an increasing volume of small shipments rather than a diminishing volume. And there is no doubt there have been increased handling costs and a lack of profit," Mr. Scherer told the group. "When a carrier can make a reasonable degree of profit on small shipments, I feel certain proper steps will be taken to institute different methods of handling in order to solve the problem."

Asked about the motor carrier industry's reputed tendency to "pick and choose" traffic, Mr. Scherer said he believes all common carriers—including trucks—should live up to their obligations, and handle all traffic offered. "However, we truckers are a bunch of rugged individualists—some of whom may have disregarded their common carrier obligations. But the number of offenders is small. Correcting this situation is a problem of the trucking industry; a problem of education."

Commenting on the high cost of handling small shipments, Mr. Scherer said transportation "is a business which does not adapt itself to heavy mechanization as a means of combating higher labor costs."

Asked whether the $1.50 arbitrary charge placed on small shipments by motor lines in central states was "a move of self-defense in view of an avalanche of new traffic?," Mr. Scherer said he feels "it is a step in the right direction, to take care of costs not normally involved in pick-up and delivery and in line-haul services."

"We Want L.C.L."

"We very definitely want less-carload traffic," Mr. Von Willer said. "This traffic amounts to approximately $10 million a year to the Erie and studies we have made indicate that it makes some contribution to our net."

Mr. Von Willer described five causes of the "l.c.l." problem:

(1) Dispersal of volume to new transportation agencies;

(2) The necessity for railroads to maintain service at all stations;

Railroads: "We very definitely want l.c.l. traffic."—*H. W. Von Willer.*

Trucks: "There is no doubt there has been a lack of profit in l.c.l."—*A. K. Scherer.*

Observer: "Competition has increased the cost of handling small shipments by dividing volume."—*A. H. Schwietert.*

Large Shipper: "I think a lot of people are unjustly afraid of transportation charges."—*T. C. Burwell.*

Small Shipper: "Rates on small shipments have increased three times as much as average carload rates."—*J. M. Cody.*

Railway Express: "Railway Express is caught in the middle between parcel post and l.c.l."—*K. N. Merritt.*

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(3) The ability of other carriers to "pick and choose";
(4) The 40-hour work week and its effect on railroad labor and on industry; and
(5) Obsolete facilities which have prevented use of improved freight handling methods.

He then proposed four possible "solutions":
(1) An "overall agency" plan;
(2) The "Griffin Plan";
(3) The Chain Store Traffic League Plan; and
(4) Taking away from the shipper the right of routing.

"The Chain Store Traffic League plan does offer a key to better service," he continued, "If shippers will but take advantage of schedules now advertised, and if railroads will take steps to make their published schedules effective."

Mr. Von Willer then cited the "principal factors necessary for the railroads to follow immediately, insistently, and relentlessly to improve their small shipments handling":
(1) Clear up misunderstanding concerning contribution of l.c.l. traffic to general railroad overhead;
(2) Undertake a study to determine how important transfer stations can be operated six or seven days a week without incurring penalty overtime payments due to the 40-hour week;
(3) Run, load and unload cars on advertised schedules;
(4) Do a more complete job of regularly checking on pick-up and delivery services;
(5) Sell service routes to shippers;
(6) Work out a plan of cooperation with receivers who do not normally receive l.c.l. from Friday noon to Monday morning; and
(7) Restrict areas served by pick-up and delivery services, and discontinue such services at stations with small volume.

Asked whether railroads should pool l.c.l. services to eliminate duplication of service and needless competition, Mr. Von Willer said: "I think there are many places where such pooling arrangements can and should be instituted—but they will not work everywhere." "There is," he also said, "a very definite place for freight forwarders."

"Piggy-Back" Services

When questioned about trailer-on-flat-car services as an answer to the problem of smaller shipments, Mr. Von Willer said "Very serious study is being given this problem by Eastern railroads." Mr. Scherer observed that such service "would not be very practical for the truck operator on runs of less than 300 miles because rail service is much slower than can be obtained by operating over the highway."

Mr. Burwell, speaking on competitive rates, ventured the suggestion that "perhaps railroad l.c.l. rates should be accepted as 'standard,' and truck rates be made somewhat higher—perhaps 20 per cent—because their service is faster, and water rates be made somewhat lower because of their slower service."

WITHOUT GETTING OUT of her automobile this lady picks up and pays for her railroad tickets at the first auto drive-in rail ticket window, placed in operation by the Chesapeake & Ohio at Richmond, Va. The C&O has opened auto drive-ins for ticket pickup at one suburban location and one downtown location in Richmond in cooperation with the First and Merchants National Bank. More such windows are to be opened later in other Richmond suburbs and in other cities in cooperation with local banks. Under the system, the railroad traveler calls the C&O main office in Richmond to order ticket and Pullman reservation in advance. Then later the ticket can be picked up and paid for.

Railway Express service is highly competitive with parcel post, and supplements railroad l.c.l. by providing a superior service, Mr. Merritt said. In response to questions as to whether the REA could handle larger volumes should the Post Office discontinue handling parcel post in competitive service between larger cities, Mr. Merritt observed: "We could quickly adjust ourselves to absorb it in a short period of time." Mr. Merritt added that he believes railroad earnings from express will improve under the new contract which is to go into effect next February.

Mail Transport Study Started

Post Office Department seeks to determine "most appropriate and economical" methods of carriage

The Post Office Department is conducting a "complete study" of the methods used to transport mail, Postmaster General Summerfield said in a July 2 statement. Purpose of the study is to determine the "most appropriate and economical" methods of transportation.

"Mail volume has increased 94 per cent in the last 15 years," Mr. Summerfield said. "If the public is to get fast dependable mail service, every method of transportation must be used in its proper sphere and adapted to changing times and to our great population growth."

Mr. Summerfield said the department is discussing its transportation problems with all major carriers. He said leaders of the railroad, aviation and trucking industries have been asked for new ideas and methods on moving mail efficiently and economically.

"We feel certain we can arrive at a transportation pattern that is best suited for the effective movement of the mails under all conditions and to all parts of the country," Mr. Summerfield continued. He said discussions with the carriers still are in the "exploratory stages."

Some "major factors" under review by the department are (1) how to fill gaps caused when nonprofitable passenger trains are abandoned; (2) how to obtain "more intelligent utilization of motor trucks and buses," and (3) how to use an air transport industry which has "demonstrated its ability to participate more extensively in the transportation of mail."

As one phase of the overall transport

B&O Dedicates Museum

Extensive collection of historic locomotives, locomotive replicas, paintings, models and other railroad material now housed at Mt. Clare

The Baltimore & Ohio Transportation Museum was dedicated at Baltimore on July 2 by Col. Roy B. White, president of the railroad, in the presence of over 1,300 guests, with ceremonies which included reenactment, in costumes of the period, of laying the first stone of the B&O on July 4, 1828.

Howard E. Simpson, B&O executive vice-president, who presided, introduced several descendants of founders of the railroad. Among the founders represented were Philip E. Thomas, its first president; Charles Carroll of Carrollton, then the last surviving signer of the Declaration of Independence, who assisted in laying the first stone; Alexander Brown, a banker, and Benjamin Chew Howard and John McKim, Jr., petitioners to the legislature of Maryland for the charter. Addresses were delivered by Theodore McKeldin, governor of Maryland; Arthur B. Price, president of the Baltimore City Council; George R. Radcliffe, president of the Maryland Historical Society; Robert S. Henry, vice-president, Public Relations, Association of American Railroads, and William T. Gaynor, vice-president, Railway and Locomotive Historical Society, New York.

Establishment of the Transportation Museum fulfills a desire long held by the management of the railroad. Following the Centennial Fair of the Iron Horse held at Halethorpe, Md., in 1927, a large building was set aside at that place for preservation of the numerous railroad items exhibited. This building was later destroyed in a storm and it was necessary to store the material in various places on the railroad.

Includes Three Buildings

The new museum, at Mt. Clare, is composed of three buildings joined by passageways to form one large area for display of framed paintings, dioramas, scale models of cars and locomotives, bridges, track, signals and yard layouts, and other paraphernalia pertaining to railroad operation and construction. The group of full size wooden replicas of historic locomotives, known as the Pangborn collection, and the actual historic locomotives and cars that once ran on the railroad, are all housed here.

Entrance is through the oldest building in the group—the original Mt. Clare station, completed in 1830. It is situated between two other structures that flank it at right angles. The second building of the group to the right of the entrance is the museum annex, a two-story red brick structure built in 1891 and used until 1949 as the railroad's printing plant. It now contains the smaller exhibits of an extensive collection, including railroad lanterns, models of bridges of all types erected from 1829 to 1947, and a comprehensive exhibit of rail sections. Among the working models of B&O locomotives, cars and trains is a model railroad on which is reproduced the operation of the Cumberland Division.

The central feature of the museum is what was formerly the railroad's passenger-car roundhouse or shop. This is a 22-sided polygon, 240 ft. in diameter. The turntable is now covered with a floor and historical pieces of rolling stock—including locomotives, freight cars and passenger cars—are displayed on 22 radial tracks.

The Transportation Museum is open to the public Tuesdays through Saturdays from 10 a.m. to 4 p.m.

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study, the department is considering a test movement of first-class mail by plane. It is understood such a test would be conducted between New York and Chicago.

Meanwhile, the department has added new personnel, presumably to work on the transportation survey. Dr. Beatrice Aitchison, formerly with the Interstate Commerce Commission and the Department of Commerce, joined the Post Office Department on July 1. She will be director of transportation research in the Bureau of Transportation.

Figures of the Week

Net Income Up $78 Million

Five-months' figure of $338 million compares with $260 million in like 1952 period; May's net was $74 million, compared with $59 million

Class I railroads in the first five months of this year had estimated net income, after interest and rentals, of $338,000,000, according to the Bureau of Railway Economics of the Association of American Railroads.

This compared with a net income of $260,000,000 in the first five months of 1952.

Net railway operating income, before interest and rentals was $448,770,942 for the first five months of this year. The comparable 1952 figure was $374,463,064.

Estimated results for May showed a net income of $74,000,000, compared with $59,000,000 in May 1952. Net railway operating income for the 1953 month amounted to $95,393,045, compared with $83,094,885.

In the 12 months ended May 31, the rate of return averaged 4.39 per cent, compared with 3.87 per cent for the 12 months ended May 31, 1952.

Gross in the first five months of 1953 amounted to $4,402,826,098 compared with $4,306,097,045 in the same period of 1952, an increase of 2.2 per cent.

CLASS I RAILROADS—UNITED STATES

	1953	1952
Month of May		
Total operating revenues	$901,633,922	$870,648,284
Total operating expenses	680,507,810	676,704,241
Operating ratio—percent	75.47	77.72
Taxes	106,270,668	97,282,615
Net railway operating income (Earnings before charges)	95,393,045	83,094,885
Net income, after charges (estimated)	74,000,000	59,000,000
Five Months Ended May 31		
Total operating revenues	4,402,826,098	4,306,097,045
Total operating expenses	3,333,902,343	3,354,709,662
Operating ratio—percent	75.72	77.91
Taxes	528,215,942	506,471,365
Net railway operating income (Earnings before charges)	448,770,942	374,463,064
Net income after charges (estimated)	338,000,000	260,000,000

Operating expenses amounted to $3,333,902,343 compared with $3,354,709,662, a decrease of 0.6 per cent.

Sixteen Class I roads failed to earn interest and rentals in the five months, of which eight were in the Eastern district, one in the Southern region, and seven in the Western district.

Freight Car Loadings

Loadings of revenue freight in the week ended July 4 totaled 670,232 cars, the Association of American Railroads announced on July 9. This was a de-

THE BALTIMORE & OHIO Transportation Museum (top), in the Mt. Clare shop area, consists of the historic Mt. Clare station (center), a former printing plant (right), and the former roundhouse passenger-car repair shop. Exhibits include the Panghorn collection of locomotive replicas, historic locomotives, passenger cars and freight cars, rail sections, bridge models, shadow-box displays, and paintings. Shown outside the building on dedication day is the famous "Atlantic" with Imlay coaches (center left); and inside, rail sections (center right) recording the development of rail from the strap-iron-covered wood section; a shadow-box display (lower left); and typical exhibits as seen at the dedication day ceremonies (lower right).

crease of 148,218 cars, or 18.1 per cent, compared with the previous week; an increase of 222,716 cars, or 49.8 per cent, compared with the corresponding week last year; and an increase of 82,073 cars, or 14 per cent, compared with the eqivalent 1951 week.

Loadings of revenue freight for the week ended June 27 totaled 818,450 cars; the summary for that week, compiled by the Car Service Division, A. A. R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, June 27

District	1953	1952	1951
Eastern	137,964	109,338	145,326
Allegheny	167,690	99,676	172,795
Pocahontas	59,496	54,261	60,869
Southern	125,234	116,648	125,412
Northwestern	133,571	68,931	133,875
Central Western	130,449	131,180	123,437
Southwestern	64,046	66,446	59,901
Total Western Districts	328,066	266,557	317,213
Total All Roads	818,450	646,480	821,615
Commodities:			
Grain and grain products	60,023	69,132	44,293
Livestock	6,971	5,029	6,567
Coal	142,218	128,361	146,756
Coke	13,710	4,181	17,195
Forest products	47,101	44,208	47,207
Ore	93,551	10,042	90,640
Merchandise l.c.l.	66,756	68,937	74,358
Miscellaneous	388,120	316,590	394,599
June 27	818,450	646,480	821,615
June 20	812,578	643,969	832,942
June 13	797,425	631,042	826,883
June 6	775,489	684,247	813,326
May 30	786,755	696,860	744,655
Cumulative total 26 weeks	18,928,626	18,535,925	19,918,313

In Canada.—Carloadings for the seven-day period ended June 21 totaled 85,518 cars, compared with 83,984 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
June 21, 1953	85,518	33,079
June 21, 1952	82,359	30,237
Cumulative Totals		
June 21, 1953	1,828,834	783,431
June 21, 1952	1,903,377	831,367

People in the News

Six Yugoslav Railroaders In U.S. to Study Yards

Six officers from the Yugoslav State Railway will spend July in this country to study planning, construction and operation of railroad yards. Their trip is sponsored by the Mutual Security Agency.

Cooperating in the M.S.A. project are six railroads: Erie; Central of New Jersey; Pennsylvania; Chicago & North Western; Southern, and Chicago, Milwaukee, St. Paul & Pacific. Aim of the program is to help the Yugoslav railway reorganize, modernize and expand its yard facilities.

First stop for the Yugoslav delegation was the Atlantic City convention and exhibit during the week of June 22. During the next month the group will visit rail yards at Jersey City, N. J.; Harrisburg, Pa., and Altoona; Chicago; Milwaukee; Birmingham, Ala., and Alexandria, Va.

LATEST ON I.C.C.'s MANAGING DIRECTOR

On July 7, the Interstate Commerce Commission's acting secretary, George W. Laird, issued a "notice." It read as follows:

"The Interstate Commerce Commission has had under consideration the appointment of a temporary managing director for the commission. However, upon further consideration, it has been decided that the commission will not proceed to appoint a temporary managing director for the commission, but will with diligence, pursue the selection and appointment of a permanent managing director."

O'Neill Remains N.M.B. Chairman for Fiscal '54

Francis A. O'Neill, Jr., has been re-elected by the National Mediation Board as its chairman for another year from July 1.

Mr. O'Neill is N.M.B.'s Republican member. He has been on the board since March 1947, and is now serving his third three-year term for which he was reappointed this year by President Eisenhower.

Dr. Splawn Commended By Senate Committee

The Senate Interstate and Foreign Commerce Committee last week adopted a resolution commending Dr. Walter M. W. Splawn for his "great contributions to the public welfare." Dr. Splawn retired June 30 after nearly 20 years as a member of the Interstate Commerce Commission.

The resolution, offered by Senator Tobey, the committee chairman, reviewed Dr. Splawn's career and concluded by wishing him "Godspeed and continued happiness and satisfaction in whatever he may undertake for the benefit of his fellow man."

Earlier, the I.C.C. held a special session on the afternoon of June 30 to mark the occasion of Dr. Splawn's retirement. Members of the commission presented him with a scroll, commending him for his "varied and distinguished career."

Officers Named to New General Claims Division

Kenneth A. Carney, of Chicago, has been named executive vice-chairman of the newly established General Claims Division of the Association of American Railroads and director of the division's Claims Research Bureau, both located in Chicago, J. Carter Fort, vice-president and general counsel of the A.A.R., has announced.

Mr. Carney entered railroad service in 1913 on the Illinois Central, where he served continuously except for military service in World War I. He was chief claim agent at the time he joined the A.A.R. staff.

F. H. Hitchcock, of Los Angeles, general claim agent of the Atchison, Topeka & Santa Fe, was named chairman of the claims division. Vice-chairmen are H. C. Ozburn, Savannah, Ga., assistant general claim agent of the Central of Georgia; H. H. Hough, Montreal, general claims adjuster of the Canadian Pacific, and V. S. Adkins, Chicago, general claim agent of the Elgin, Joliet & Eastern. F. L. Johnson, Mobile, Ala., general claim agent of the Gulf, Mobile & Ohio, was named secretary of the division.

W. J. Kennedy Resigns From Retirement Board

William J. Kennedy, "public" member and chairman of the Railroad Retirement Board, has resigned, effective August 31.

This was announced by the White House on July 3. Mr. Kennedy, 70 years old, has been a member and chairman of R.R.B. since 1946, when he succeeded the board's first "public" member and chairman, Murray W. Latimer. Mr. Kennedy has served only one year of the latest five-year term for which he was reappointed last year by former President Truman.

Accounting

Amortization Certificates

Certificates of necessity for accelerated amortization of defense facilities were granted to 22 railroads and one refrigerator car line during the period from April 23 through May 20, the Office of Defense Mobilization has announced.

The 23 companies which received the fast-write-off certificates are listed below, together with the amounts approved by O.D.M. and the percentages of those amounts which can be written off in five years.

Atchison, Topeka & Santa Fe, $575,000—70 per cent.
Atlantic Coast Line, $1,323,748—55 per cent; and $1,319,500—70 per cent.
Central of New Jersey, $277,224—70 per cent.
Chesapeake & Ohio, $570,000—70 per cent.
Chicago, Indianapolis & Louisville, $279,000—70 per cent.
Chicago & North Western, $195,000—70 per cent.
Delaware & Hudson, $1,650,000—55 per cent.
Denver & Rio Grande Western, $1,646,012—70 per cent; and $1,039,760—55 per cent.
Detroit, Toledo & Ironton, $1,509,640—55 per cent.
Duluth, South Shore & Atlantic, $1,123,064—70 per cent.
Great Northern, $175,000—40 per cent.
Kansas City Southern, $856,000—40 per cent.
Lake Superior & Ishpeming, $300,000—55 per cent.

Louisville & Nashville, $1,323,758—55 per cent; and $1,319,500—70 per cent.
New York, New Haven & Hartford, $4,175,000—40 per cent.
Northwestern Pacific, $95,455—50 per cent.
Pennsylvania, $970,000—70 per cent.
Seaboard Air Line, $554,835—40 per cent.
Southern Pacific (including Central Pacific), $1,430,778—40 per cent.
Union Pacific, $2,800,000—70 per cent.
Wabash, $2,352,508—70 per cent.
Western of Alabama, $324,496—55 per cent.
Western Fruit Express, $4,112,321—70 per cent.

In its report for the period from May 21 through June 3, O.D.M. showed that certificates then approved included the following:

Baltimore & Ohio, $240,000—40 per cent.
Chicago & Eastern Illinois, $228,750—40 per cent.
Chicago, Rock Island & Pacific, $311,405—70 per cent; and $149,620—55 per cent.
Great Northern, $135,000—40 per cent.
Illinois Central, $122,130—40 per cent.
Monongahela, $1,316,400—55 per cent.
New York Central (including Pittsburgh & Lake Erie), $27,451,766—55 per cent.
Ogden Union Railway & Depot, $2,033,000—40 per cent.
Seaboard Air Line, $117,100—40 per cent.
Southern Pacific (Central Pacific), $38,365—40 per cent.
Texas & New Orleans, $42,606—40 per cent.

Additional certificates awarded in the two-week period June 4-17 included:

Atlantic Coast Line, $420,713—40 per cent.
Chicago, Rock Island & Pacific, $725,000—70 per cent.
Duluth, Missabe & Iron Range, $281,575—50 per cent.
New Orleans & Northwestern, $25,740—40 per cent.
Northwestern Pacific, $126,312—40 per cent.
St. Louis-San Francisco, $745,060—55 per cent; and $2,896,632—70 per cent.
Seaboard Air Line, $200,000—40 per cent.
Texas & New Orleans, $58,002—40 per cent.

Law & Regulation

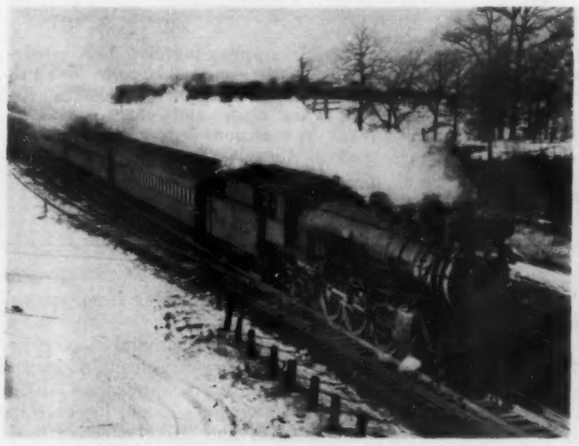
Entire I.C.C. Will Consider Bars to Seatrain Routings

Cases involving railroad tariff provisions which propose to restrict routing via Seatrain Lines will be considered by the entire Interstate Commerce Commission.

The commission has recalled the cases (I. & S. Docket No. 5979 and No. 30954) from its Division 3 to which they had been assigned. While in the hands of the division, they had been progressed through the proposed-report stage.

The tariff provisions in issue would restrict through routings in connection with Seatrain at Savannah, Ga., and Edgewater, N.J. Between those points Seatrain conducts water-carrier operations with vessels which transport freight cars.

The proposed report, by Examiner T. E. Pyne, recommended a commission finding to the effect that the tariff provisions were unlawful only because they were not "clear." It recommended further that this finding be without prejudice to publication of "clear" provisions. It was also the examiner's



"REMEMBER the 'good old days'—when your Burlington suburban train looked like this?"

"NOW HERE'S the sleek, diesel-powered, air-conditioned train of today."

CONTRAST—AND A SUBURBAN FARE INCREASE

The Chicago, Burlington & Quincy has advised its commuters that an increase in suburban fares must be sought from the Illinois Commerce Commission, because increased costs "have more than absorbed the increased suburban revenues which have resulted from the growing number of passengers who ride these [suburban] trains."

To tell its commuters why fare increases are necessary, the Burlington distributed a "Progress Report" leaflet aboard all westbound suburban trains for a 24-hour period beginning on the afternoon of June 10. Titled "A Progress Report on Your Suburban Service—and Now We Need *Your* Help," the leaflet reviewed for commuters what "your transportation system" has accomplished since 1948. Leading off with the contrasting photos shown above, the leaflet reviews improvements made "to make this suburban train a pleasant place for you to spend an hour or so every working day." They include:

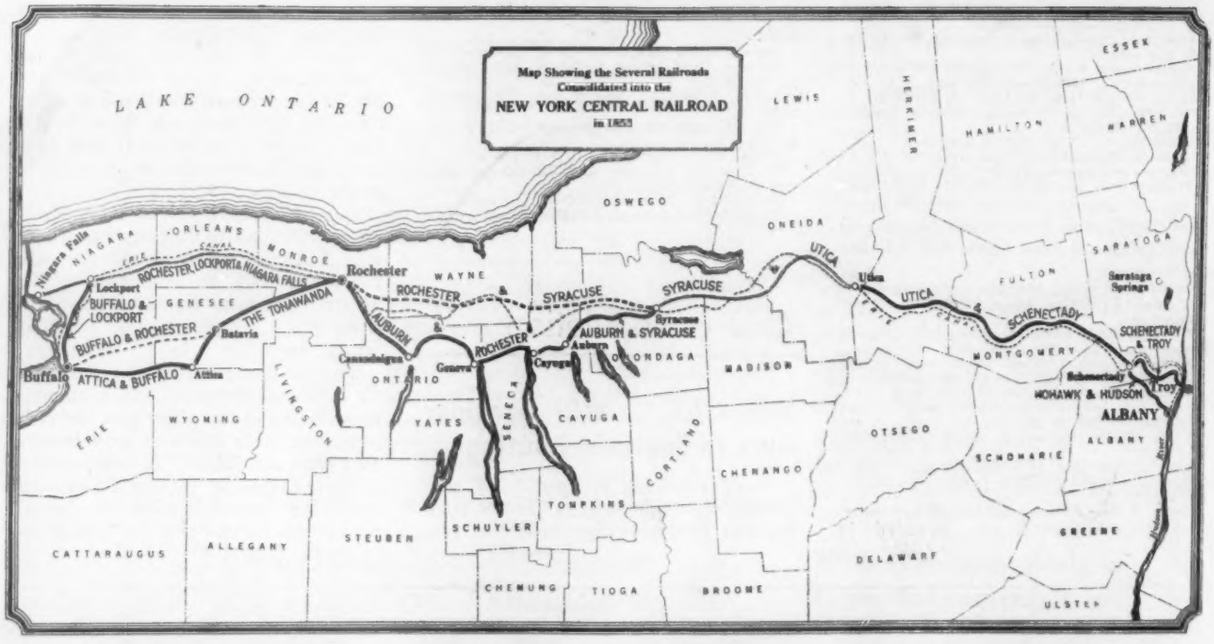
- Diesel locomotives to replace all steam power.
- Forty stainless steel gallery cars (double-deck cars seating 148 passengers).
- Modernization of 88 other suburban coaches with air conditioning, new seats, lights and decorations, double-glazed windows and enclosed vestibules.
- New signals, track, switches and crossovers to increase operating flexibility and permit faster schedules.

"We've invested millions of dollars in suburban improvements since 1948," the pamphlet continues, "but we like to put it this way: Burlington commuters are our neighbors—and we want them to be our friends. Modern, convenient suburban service is good for you—and that makes it desirable for us to provide the best we can.

"And now we need your help. Burlington commutation fares have not been increased since 1948. In that time, most of the things you buy to use in your home or business have increased in cost. There have been marked increases, too, in our costs—wages, materials, supplies and the cost of operating the air conditioning in these cars. New methods are being constantly used to 'cut costs,' but in spite of this efficiency, total expenses exceed suburban revenues by very substantial amounts. It has now become necessary for us to petition for an increase in fares.

On the average, this increase will be 27 per cent. And even with this proposed increase, our 'expense of operation' will exceed revenues.

"Putting these facts before you, we feel sure you will recognize the necessity for an increase in suburban fares."



THE NEW YORK CENTRAL RAILROAD COMPANY was one hundred years old on July 7. Ten small railroads—including eight operating companies and two proposed ones which never reached the construction stage—were consolidated under that name on July 7, 1853. The map shows the routes of the consolidating roads. Before the consolidation date the Attica & Buffalo and the Tonawanda had been merged into the Buffalo & Rochester, and the Auburn & Rochester and the Auburn & Syracuse had been merged into the Rochester & Syracuse. Oldest of the Central's approximately 560 predecessor roads was the 16-mile Mohawk & Hudson, chartered in 1826. Before this centennial year ends, the NYC has announced, all its service east of Cleveland and all its passenger service east of Detroit, is scheduled to be diesel-powered.

position that the issues did not embrace the question as to whether it might be unlawful for the respondent railroads and Seatrain to refrain from joining in through routes.

Senate Group Would Put Radio Under I.C.C. Rule

The Senate Committee on Interstate and Foreign Commerce last week voted to report favorably to the Senate an amended version of the so-called radio-rules bill.

At the same time the committee announced that it would give no further consideration at this session of Congress to the brake bill. And it voted to report favorably S.281, which would give the Interstate Commerce Commission authority to order discontinuance of intrastate railroad services found unduly burdensome on interstate commerce.

The radio-rules bill, S.539, as originally introduced, would amend the Interstate Commerce Act's section 25 (which now contains provisions of the so-called signal inspection act) to give the I.C.C. authority to require installation of radio and other train communication systems, and to prescribe operating rules in connection therewith and in connection with present signaling facilities. The amended version approved by the committee would convert the measure into a "radio" bill, all reference to rules being eliminated. It would simply extend the scope of the signal act to include "radio and other electronic devices."

The brake bill is S.1401. It would amend the Safety Appliance Acts to give the commission authority to require railroads to install power brakes, and to prescribe rules, standards and instructions for the installation, inspection, and maintenance of such brakes.

Time-Lag Amendment Gets General Endorsement

Interested carrier groups have agreed to support the Senate version of the so-called "time-lag" bill with an amendment introduced July 2 by Senator Johnson, Democrat of Colorado. The agreement was brought about by the Transporation Association of America, and the bill, with the Johnson amendment, has also been accepted by the Association of American Railroads, American Trucking Associations, and American Waterways Operators.

The bill is designed to insure prompt increases in rates as costs rise. It would require the Interstate Commerce Commission to act on a general rate increase proposal within 60 days after its filing. The Johnson amendment is designed to provide something in the way of "safeguards" which the trucking industry wants with respect to exemptions of competitive rates from general increases.

It stipulates that general-income petitions "shall show any proposed exceptions to the uniform application of the requested increase . . . and the carriers shall publish and make effective initially the full amount of the increases authorized by the commission's interim order." However, the amendment also includes this proviso: "That nothing herein contained shall be construed to prevent the making of any change in any rate . . . made effective initially pursuant to an interim order of the commission . . . either before or after the final disposition of any proceeding instituted hereunder."

New Appointee Told I.C.C. Is Now at "Very Bottom"

Owen Clarke, whose appointment to the Interstate Commerce Commission was confirmed last week by the Senate, was told by a member of the Senate Committee on Interstate and Foreign Commerce that the commission is "down at the very bottom."

The statement was made by the committee's former chairman, Senator Johnson, Democrat of Colorado, who also advised Mr. Clarke that it will take the "best brains the country has" to restore the commission's prestige.
(*Continued on page 117*)

"BUT WHAT'LL I DO WITH 10,000 PISTON RINGS?"

This railroad purchasing agent is asking a sensible question. A salesman has quoted a low unit price tied to a large volume of parts. The price sounds good—for a minute. But it's actually no bargain to buy parts out of all relation to needs—running the risk of losing a good share of the investment through deterioration or obsolescence.

When you buy genuine General Motors locomotive parts from Electro-Motive, you get the same low price whether you buy one part or a thousand. There's no need to tie up money in excess inventory.

This pricing structure is just one of the many reasons for standardizing on Electro-Motive parts. Quick delivery, full warranty, scientific packaging, and continuous parts improvement are more reasons which add up to top quality at lowest cost.

HERE'S WHY IT PAYS TO BUY GENUINE

EMD PARTS

- **Proved Quality**—Designed, engineered and tested by the locomotive builder.
- **Warranty**—100,000 miles or one year's service, whichever occurs first.
- **One Low Price Regardless of Volume**—Buy only what you need.
- **Scientific Packaging**—Protects against damage in shipping and deterioration in storage
- **Continuing Improvements**—Over a 15-year period, an 800% increase in piston life, for example.
- **Strategically Located Warehouses**—Cut railroad shipping costs, reduce inventory requirements.
- **One Source—One Responsibility for every GM locomotive part.**

ELECTRO-MOTIVE DIVISION GENERAL MOTORS LOCOMOTIVES GENERAL MOTORS

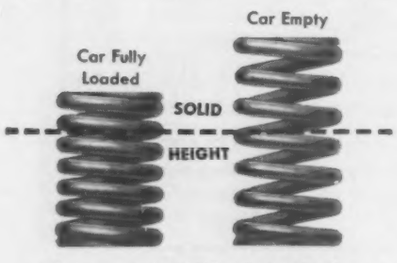
La Grange, Illinois—Home of the Diesel Locomotive • In Canada: GENERAL MOTORS DIESEL, LTD., London, Ontario

EMD Parts with a pedigree

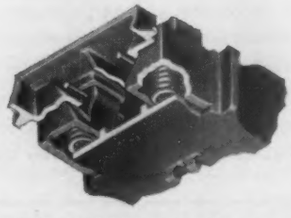
Just 1/16" wear i

Why more Ride-Control Trucks have been ordered— *and re-ordered*— than all other trucks combined!

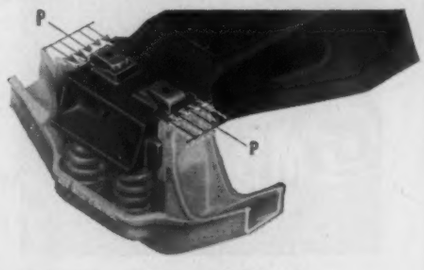
LONG SPRING TRAVEL . . . PLUS CONSTANT FRICTION CONTROL . . . WITH BALANCED SPRING PRESSURES . . .



Long spring travel insures soft, impact-absorbing spring action at modern speeds, with adequate *reserve* travel after the car is fully loaded.



Constant Friction Control prevents harmonic oscillation of long travel truck springs. Long wearing friction shoes keep it constant.



Pressures "P" are balanced to resist movement tending to misalign bolster and side frame—thus automatically squaring the truck.

After 4 years of box express service on the Illinois Central, here's what inspection proved about friction shoes in ASF Ride-Control Trucks...

in 229,584 miles!

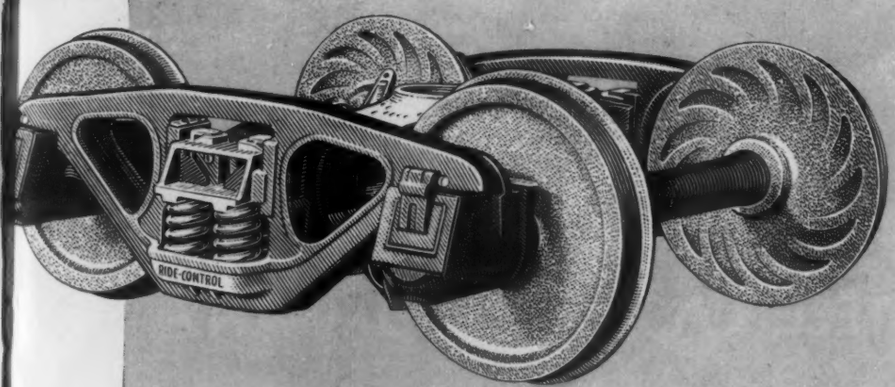
One short trip in a box car proves the soft, smooth riding qualities of ASF Ride-Control Trucks. But, it can take *years* to prove the *long wear* of the steel friction shoes that make this soft riding possible—simply because the shoes take so long to *show* any appreciable wear.

For example, about 4 years ago the Illinois Central mounted 20 special-duty box express cars on Ride-Control Trucks. As of November 1, 1952, these cars have rolled up an average of 229,584 car miles each . . . equivalent to over 12 years of service for the usual freight car. *Not in a single case have the steel friction shoes worn more than one-sixteenth of an inch!* Despite such high mileage, it's estimated that the shoes have 75% of their wear left.

This long wear is important. The smooth ride of ASF Ride-Control Trucks depends on long travel springs—*controlled by the constant friction of the shoe riding against the column.* This friction control *remains constant.* As proved by the on-line service records above, the high tensile heat-treated steel friction shoes in ASF Ride-Control Trucks can normally be expected to last for the life of the car.

If you are interested in the lowest possible maintenance costs, along with smooth riding, let a qualified ASF Representative show you how the modern Ride-Control Truck can reduce your costs per car mile. Write us today.

You specify MODERN RIDING STANDARDS when you specify



ASF

RIDE-CONTROL® TRUCKS

AMERICAN STEEL FOUNDRIES

410 N. Michigan Avenue, Chicago 11, Illinois

Look for this MINT ◯ MARK on the running gear you specify

Canadian Sales: International Equipment Co., Ltd., Montreal 1, Quebec

BUCKEYE C-R®

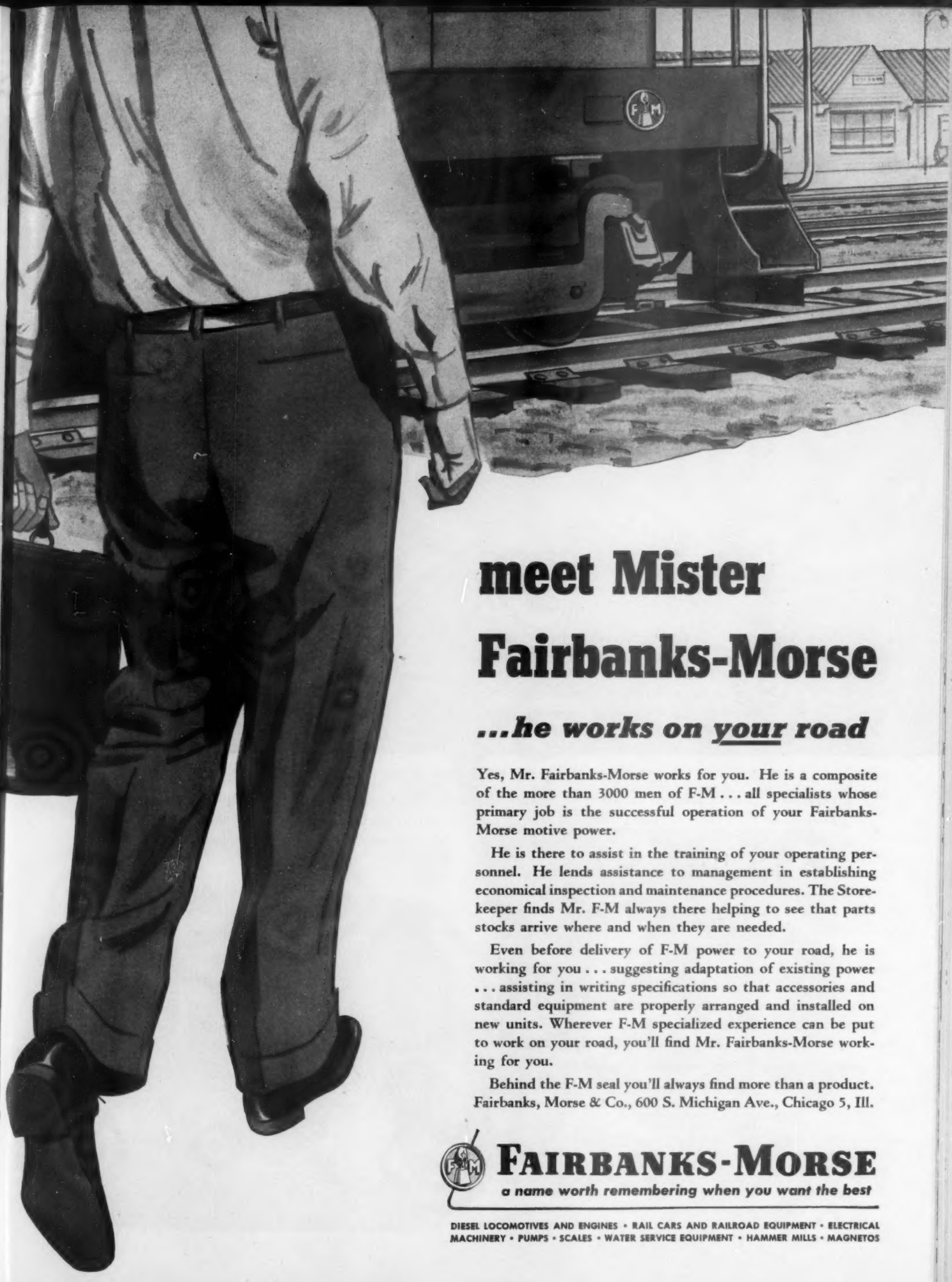
THE TRUCK WHICH PROVIDES A "CUSHION" BETWEEN LADING AND ROAD BED

THE BUCKEYE C-R (CUSHION-RIDE) TRUCK OFFERS A UNIQUE COMBINATION OF THE BEST IN TIME PROVEN FEATURES AND MODERN DEVELOPMENTS.

- Integral box side frames with Buckeye inverted U-Section tension members.
- Flanged type (basket) spring seat illustrated. Conventional type can be furnished if desired.
- Full box section bolster ends protected by hardened steel wear plates.
- Best possible vertical, lateral and alignment control provided by simple, durable and effective control parts.
- Symmetrical friction wedges of hardened cast steel with full width, long wearing bearing surfaces.
- Low rate friction wedge springs for uniform action over long service life.
- Easy visual inspection of control parts.
- Easy to assemble and to dismantle.
- Superior riding qualities and long maintenance-free service life.

THE BUCKEYE STEEL CASTINGS COMPANY

New York, N. Y. Columbus, Ohio Chicago, Ill.



meet Mister Fairbanks-Morse

...he works on your road

Yes, Mr. Fairbanks-Morse works for you. He is a composite of the more than 3000 men of F-M . . . all specialists whose primary job is the successful operation of your Fairbanks-Morse motive power.

He is there to assist in the training of your operating personnel. He lends assistance to management in establishing economical inspection and maintenance procedures. The Storekeeper finds Mr. F-M always there helping to see that parts stocks arrive where and when they are needed.

Even before delivery of F-M power to your road, he is working for you . . . suggesting adaptation of existing power . . . assisting in writing specifications so that accessories and standard equipment are properly arranged and installed on new units. Wherever F-M specialized experience can be put to work on your road, you'll find Mr. Fairbanks-Morse working for you.

Behind the F-M seal you'll always find more than a product. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE

a name worth remembering when you want the best

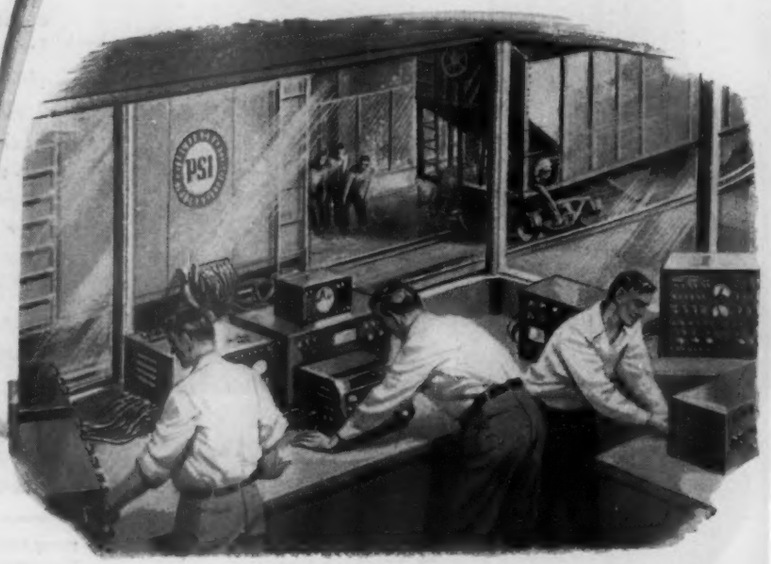
DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAMMER MILLS • MAGNETOS

GETTING THE GOODS ON A CAR KILLER

Operation impact! A planned collision to see how the standardized PS-1 takes it. The all-welded hopper car is fully loaded as it comes down the ramp to smash into the PS-1. Speeds as high as 18 mph. can be obtained in order to get the data that makes the PS-1 a better and better box car.

RECORDING THE EVIDENCE

At the scene of the test, Research & Development engineers using the latest electronic equipment, record the information from the impact. The stresses and strains are measured precisely and then the facts are used in the design and construction of the PS-1. Tests such as this make the improvement of the PS-1 continuous.



Science builds a better box car

RESEARCH AND DEVELOPMENT TESTS ARE THE *FIRST* PROOF THAT EVERY PS-1 CAN TAKE IT

Pullman-Standard Research and Development engineers have never stopped testing, proving and *improving* the standardized PS-1 box car. They have continued to anticipate the railroads' needs nation-wide for better box cars. That's why 56 railroads have already ordered 50,000 PS-1s. That's why these standardized PS-1 box cars are setting economical, day-after-day operating records.

Under laboratory control, Research and Development experts reproduce jolting service conditions—often more rigorous than cars would ever encounter. Such shock treatments and other tests are only part of the story of car building to meet the needs of American railroads from coast to coast. Pullman-Standard Sales and Service engineers also are following through continually with "on line" investigations of their own toward an improvement of PS-1 specifications.

All this is the Pullman-Standard way of building a quality box car that *stays in service longer* and assures railroads of time for *more revenue-producing shipments.* Still, the cost is lower than cars built to individual specifications. Ask for fast delivery schedules on the PS-1 standardized box car.

YOUR NEEDS CREATE THE PULLMAN "STANDARD"

PULLMAN-STANDARD

CAR MANUFACTURING COMPANY

SUBSIDIARY OF PULLMAN INCORPORATED

79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS

BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

THE PROOF IS IN YOUR OWN YARD

Look at any freight consist and count the number of PS-1s. Here is proof that the standardized box car is the best answer to the rising costs of today's freight operations. The sturdy PS-1 is being bought and reordered by a majority of the country's leading railroads—proof that quality as well as quantity lead to the selection of a box car designed for long service life.

SALES AND SERVICE ENGINEERING

Pullman-Standard Sales & Service engineers travel well over 100,000 miles a year for facts on box car operating conditions. Above: data on truck wheel loadings were used by our Research and Development engineers to develop PS-1 floors that stand up under heavier materials handling equipment carrying heavier loads. All components are thus engineered for dependability.

One of the 160 Uses of CONCRETE on Railroads

NO. 14 OF A SERIES

This reinforced concrete parking plaza built over the right-of-way of the N. C. & St. L. R. R. in Atlanta, Ga. provides parking space for 200 cars. It is another example of a permanent, revenue-producing improvement that pays for itself in long-term, low-maintenance-cost service.

Concrete parking facilities are just one of more than 160 uses of portland cement and concrete which enable American railroads to improve service and save time and money. The moderate first cost of concrete improvements—plus their long life and low maintenance cost—result in ***low annual cost.*** This saves money for other necessary items.

PORTLAND CEMENT ASSOCIATION
33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

SPECIALISTS IN 'G'* WAUGH CONTROL

High accelerations ("G"s), as well as rapid changes in accelerations, damage both cars and lading and, every year, cost American railroads fantastic sums.

"G" control is Waugh business. From the inception of the company, Waugh engineers specialized on devices designed to control harmful accelerations during the movement, starting and stopping and classification of railroad cars.

Out of this specialization in "G" control came Waughmat Twin Cushions . . . the modern double-action draft gear which is unconditionally A.A.R. approved and has been proven by more than 20 years service experience on American railroads.

Waughmat Twin Cushions reduce "G" peaks but, far more important, they greatly reduce destructive violent changes in "G"s, longitudinal and vertical jerks and jolts, to produce a corresponding shock reduction.

It is shock that damages lading. Rapid changes in "G"s produce shock. Twin Cushions dampen "G" changes to a far greater degree than conventional draft gears. Result: exceptional car and lading protection.

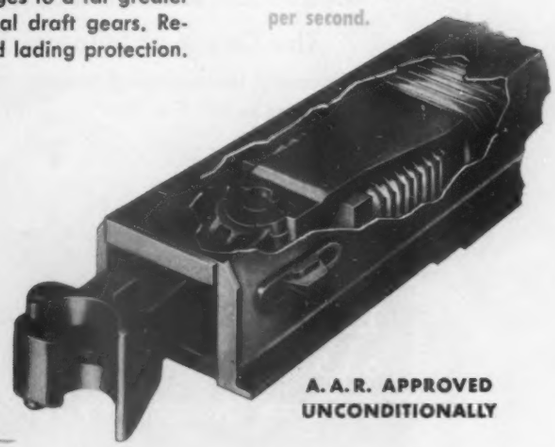
* "G", the unit of change in velocity which is equal to the pull of gravity or 32.2 feet per second per second.

For "G" control . . . Specify

WAUGHMAT

Twin Cushions

TRADE MARK REGISTERED



A.A.R. APPROVED UNCONDITIONALLY

WAUGH EQUIPMENT COMPANY, New York · Chicago · St. Louis · Canadian Waugh Equipment Company: Montreal

Here's why YOU'LL GET BETTER S

with *SATCO-*

A realistic examination of the cause of summer hot boxes shows how heat-resistant Satco can help overcome them—and cut hot box costs in every season of the year.

SATCO lining metal has a melting point 150° F higher than standard AAR babbitt. It's just as hard, just as strong at 300° F as standard babbitt is at normal summer operating temperatures of 180° F. And Satco has actually operated safely under maximum load at temperatures of 400° F and over —temperatures at which standard babbitt tends to melt, even under normal loads. *As far as the journal bearing itself is concerned, Satco gives you winter-like operation the hottest days of the year.*

But to lick the summer hot box problem completely, better maintenance should play a big role, too. That's because abnormal running temperatures definitely begin where good maintenance practices leave off. You see this once you're familiar with certain characteristics of solid bearing operation.

The Cause of Summer Hot Boxes

Normally the operating temperature of solid-type bearings is 80° F to 100° F above the atmospheric temperature. Thus, on the very hottest days the maximum journal bearing temperature should be only about 200° F. But even the standard bearing can, and often has, operated safely at temperatures above 250° F. So there's a big margin of safety even with standard babbitt right at the start.

But dirty oil, dirty packing, dry packing, rough-turned journals and collars, short-strand or matted packing, excessive truck lateral, misaligned trucks, worn wedges, worn box roofs, and many other conditions all tend to increase the temperature differential above atmospheric, and shorten this margin of safety. Of course, where two or more of these conditions exist, the temperature rise is greater than for any one condition alone. And when maintenance is lax, eventually you reach the point where the operating temperature of particular journals becomes critical in summer months, even though these same journals might operate satisfactorily in any other season.

Freight Car Bearing Performance on 5 Class 1 Railroads for Jan.-March, 1953

ROAD	TOTAL CAR MILES	CAR MILES PER HOT BOX
A	299,701,258	1,184,590
B	279,815,953	1,364,953
C	145,826,013	2,514,241
D	163,743,247	826,986
E	138,881,520	852,034
Total	1,027,967,991	1,172,141

These are the records for five top railroads for the first three months of 1953. Satco-lined journal bearings, properly maintained, would make it possible to equal or better these records even in the summer months.

ER SUMMER PERFORMANCE

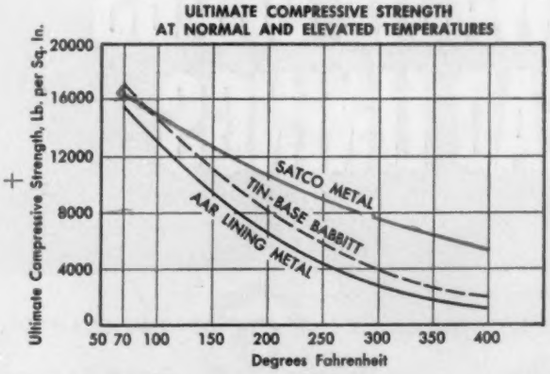
O- LINED JOURNAL BEARINGS

Year Round Good Practice Needed

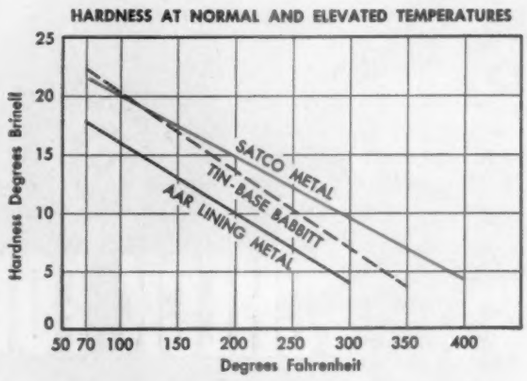
It's important to recognize too that the seeds of the summer hot box are sown in other seasons of the year. And because of the tremendous number of units involved, no concentrated drive of short duration, as in summer, can fully correct conditions that have been permitted to exist for many months.

Satco Offers Improvement at Low Cost

The big point about Satco is that it extends the margin of safety regardless of operating conditions. Because of its higher melting point, Satco is more resistant to lint wipers and waste grabs, too—not only in summer but throughout the year. It's practically a guarantee of better performance—at a fraction of the cost of any other proposed improvement. Then, too, with Satco you still have all the other advantages which solid-type journal bearings bring to railroad rolling stock. You can take the biggest load, make the fastest schedule. You save up to 1500 pounds excess dead weight per car and get the smoothest ride on any standard truck. But best of all you are sure of remarkably high bearing efficiency at the lowest possible cost. Be sure to write for your free copy of "The Facts About AAR Solid Journal Bearings." Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.



This graph shows Satco's big advantage in ultimate compressive strength at elevated temperatures and is the measure of Satco's greater resistance to load at these temperatures. But note that at starting temperatures Satco's compressive strength is approximately the same as that of the other types of lining metal, thus assuring a high degree of conformability to the journal surface.



The higher Brinell hardness of Satco lining metal at elevated temperatures, as shown in the graph above, is the measure of its greater resistance to wear at these temperatures. This advantage is one result of Satco's 150° F higher melting point. Satco bonds are also about 20% stronger than bonds with AAR lining metal.

MAGNUS

Solid Bearings

Right for Railroads

...in performance...in cost

MAGNUS METAL CORPORATION *Subsidiary of* **NATIONAL LEAD COMPANY**

POSTERS ARE AVAILABLE ON THE FOLLOWING SUBJECTS:

Dirty Packing • The Heat Test • Displaced Packing • Waste Grabs and Spread Linings. Write for your posters and booklets today. They are free.

NATIONAL BEARING

4930 MANCHESTER AVE., ST. LOUIS

use NBD better maintenance aids

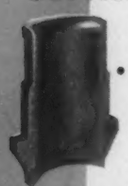
Ask your National Bearing Representative—or write direct—about this new educational program consisting of Posters for your yards and Booklets for your men.

And they are all designed to knock the top off the hot-box curve! Of course, there are instructions on how to take care of solid journal bearings, but most of these make pretty dry reading for box packers, oilers, and inspectors. So National Bearing has prepared a booklet on Mr. Solid Journal Bearing which is interesting and easy to understand.

they are free for your railroad

The four posters available for tacking up in your yards are similar to the one shown on the left hand page and act as constant reminders to your men to do a better job. Ask your National Bearing representative to show you the posters the next time he calls. He'll be glad to leave a copy of the booklet, "How to Take Care of Mr. Solid Journal Bearing," or write direct to National Bearing for samples.

Service-proved facts about solid journal bearings:



• easiest to maintain • most liberal tolerances • simplicity of design • lowest running friction • lowest cost • lightest weight • standard for interchange

DIVISION

AMERICAN Brake Shoe COMPANY

10, MISSOURI

PLANTS IN: ST. LOUIS, MO., MEADVILLE, PA., NILES, OHIO, PORTSMOUTH, VA., ST. PAUL, MINN., CHICAGO,

Exide

Exide-Ironclad STARTING
BATTERIES FOR DIESEL ELECTRIC LOCOMOTIVES

QUICK BREAKAWAY and fast acceleration of engine to firing speed.

HIGH POWER RESERVE *at all times* for positive operation of control equipment.

HIGH AVAILABILITY—uninterrupted on-line service.

EASY to change and keep charged.

CLEAN, quiet, vibrationless operation.

Exide-Ironclad CAR-LIGHTING
AND AIR-CONDITIONING BATTERIES

AMPLE POWER for entire car-lighting and air-conditioning loads . . . uniform voltage at proper values throughout run.

STEADY LIGHTS AND COOL CARS even during long stops.

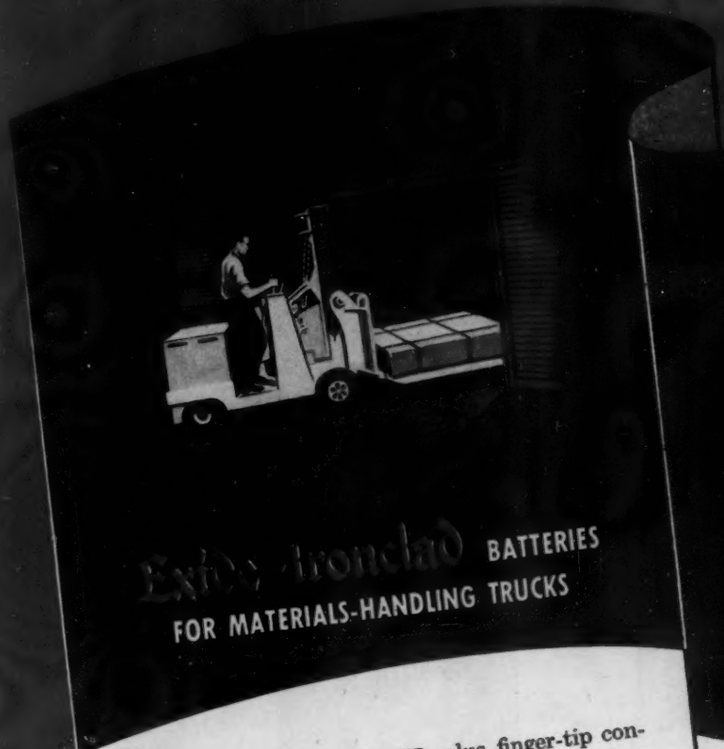
UNINTERRUPTED SERVICE—trouble-free performance—withstand vibration, shock, service variations and temperature differences.

MEET ALL REQUIREMENTS of car design and electrical loads. Easily changed or recharged in yard. Safe, clean, quiet.

Exide IS YOUR BEST BATTERY BUY... AT ANY PRICE

FOR ALL STORAGE BATTERY JOBS IN ALL RAILWAY APPLICATIONS

Exide Batteries for Railway Service meet the most exacting requirements. Each is designed for a specific job. Each assures *dependable performance* in its particular application—diesel starting, car-lighting, air-conditioning, signaling, electric communications, materials handling, trucks and buses. Wherever used, you can count on Exide for *extra long battery life, with inherent safety and low over-all costs.*



Exide-Ironclad BATTERIES FOR MATERIALS-HANDLING TRUCKS

INSTANT SURGE OF POWER, plus finger-tip control, split-second handling, easy maneuvering, accurate spotting.

ROUND-THE-CLOCK PERFORMANCE—no mechanical troubles, no unscheduled down time.

UNIFORM SPEED straight through to end of shift.

SIZES for all types and makes of battery-electric trucks—hand and rider.

Exide-Manchex BATTERIES FOR SIGNALS, SWITCHES, COMMUNICATIONS

INSTANTANEOUS POWER for bright, steady signal lights . . . dependable operation of switches, relays, locks, indicators and allied apparatus.

AMPLE RESERVE for any emergency conditions of operation.

POSITIVE OPERATION. Power is delivered at needed rates, providing steady performance with high sustained voltage.

HIGH CAPACITY in compact space.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2 • Exide Batteries of Canada, Limited, Toronto

"Exide" "Manchex" "Exide-Ironclad" Reg. Trade-marks U.S. Pat. Off.

Rebuild coupler shanks twice as fast with UNIONMELT welding

Here is a successful new method to reclaim worn couplers — manual UNIONMELT welding. Worn shank and butt surfaces are rebuilt with the highest degree of economy and efficiency with this process:

WELDING IS TWICE AS FAST AS BY OPEN ARC

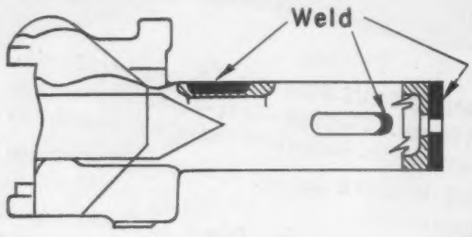
*

SMOOTH DEPOSIT PRACTICALLY ELIMINATES GRINDING

Rebuilding coupler shanks is just one of the many reclamation jobs that you can do with a versatile UNIONMELT flexible welding machine.

Write for Booklet F-8133 which tells how UNIONMELT welding is saving time and money in reclaiming couplers.

These worn areas on couplers are now rebuilt with UNIONMELT welding.



Rebuilt areas require a minimum of finishing. These four couplers are ready for annealing.

OXWELD RAILROAD SERVICE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto

OXWELD RAILROAD SERVICE

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The term "Unionmelt" is a registered trade-mark of Union Carbide and Carbon Corporation.

Who's wasting what? where?

Here's a competent and diligent worker doing what's needed to keep an important pipe line operating. How could that be a waste of high-priced maintenance time?

Maybe the waste was in buying valves and fittings that don't last. And in overlooking the fact that resulting upkeep, at today's maintenance rates especially, can quickly cancel out price tag "savings."

Waste of that kind can be avoided by thrifty buying. By insisting on better quality in piping equipment.

That's why buyers in so many plants today are looking for products that insure longer life, fewer repairs, less trouble in the line. And there's where Crane Quality shows up best. It's the dependable choice of thrifty buyers in every industry.

Crane Co., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas.

CRANE

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

CENTRAL OF
137

Central of Georgia Boosts GTM, Cuts Costs With Help of Alco-GE Diesels

The Central of Georgia has increased GTM per train hour by 35% through dieselization, while cutting transportation costs proportionately. Husky, versatile Alco-GE 1600-hp road switchers, boasting 95.6% availability in C of G service, are playing a vital role in this story of increasing efficiency.

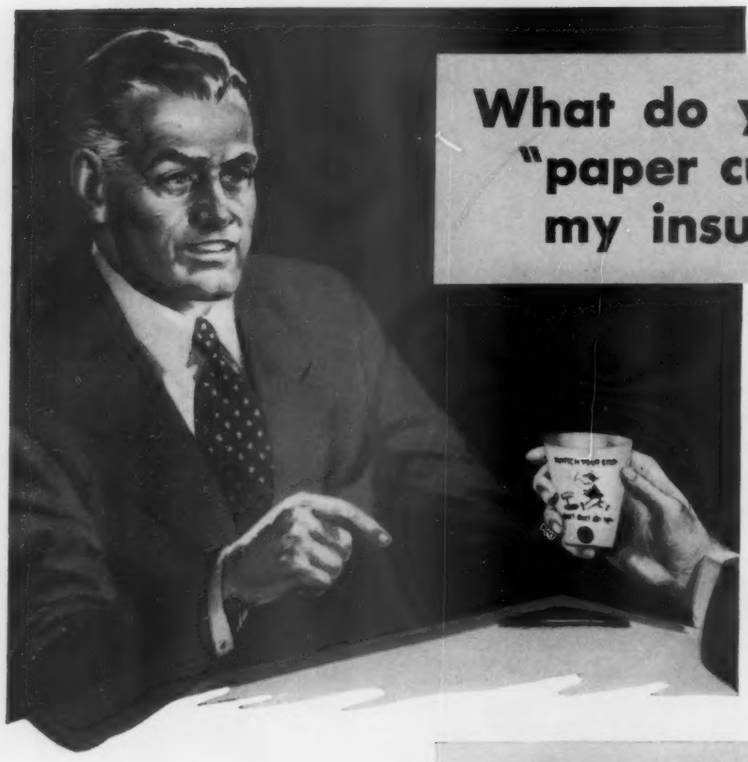
Alco-GE diesel-electrics are used exclusively, for example, on the heavy-drag coal haul from Chattanooga, Tenn., to Yates, Ga. Three 1600-hp units haul 77-car coal trains averaging 4200 tons over this 154-mile stretch with its 1½% ruling grade.

William E. Dillard, vice-president and general manager of the Central of Georgia, declares: "Dieselization has been the all-important factor in our profit picture. And our Alco-GE locomotives have been outstanding in their versatility and their ability to handle the toughest assignments."

The Central of Georgia became 100% dieselized in April with the delivery of 12 more Alco-GE diesels . . . modern motive power that symbolizes the growing strength of this fine southeastern railroad.

113-312

AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC

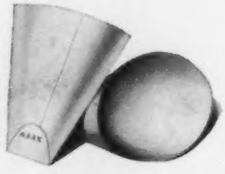


What do you mean— "paper cups could reduce my insurance costs?"

AJAX Cups can . . . because they offer the most effective and economical way to get safety messages *read*. The National Safety Council confirms that safety messages that get *read* do help reduce accidents. And you know that fewer accidents mean lower insurance costs for you. So . . .

Put your safety message in your worker's hand on an AJAX CUP

The average worker will see safety messages imprinted on AJAX CUPS several times a day — when he's relaxed, receptive, *ready to read*. What's more — crisp, clean AJAX Cups reduce the hazard of transmitted infections, help cut absenteeism, improve morale, by providing comfortable, natural, readily accessible sanitary drinking facilities. Good for your workers — profitable for you.



Whether to comply with the law—which in many states requires it—or simply to promote good employee relations, many roads use AERO or AJAX Cups in cab and caboose. AERO, a 2-piece, flat-bottom cup, also available imprinted with standard safety messages. And for each there's a heavy steel dispenser which can be welded or bolted securely to bulkheads.

UNITED STATES ENVELOPE COMPANY

GENERAL OFFICES • SPRINGFIELD 2, MASS.

14 Divisions from Coast to Coast

CS-2R

Keeping costly bridges, tanks and other steel structures like new, calls for finishes especially engineered to meet conditions encountered in railway service.

Here's a rugged team—formulated to work together. It pays off two ways by giving structures maximum protection through more years . . . by reducing the need for frequent repainting.

Ask for data on these and others in the complete line of Sherwin-Williams Railway Finishes. Write The Sherwin-Williams Co., Transportation Division, Cleveland 1, Ohio.

Use this 2-step system that pays off 2 ways

1. PRIME WITH S-W KROMIK ®

. . . the heavy-duty, multiple-pigment primer. KROMIK includes not only the best protective properties of red lead, but also those of three other protective pigments to effectively seal the metal against rust and corrosion.

KROMIK penetrates cracks, joints, around rivets. It covers evenly, whether brushed or sprayed . . . weak spots that occur with heavy-pigmentation primers are avoided. It dries through, forming a tough, tight film that withstands weather and abrasion.

2. FINISH WITH S-W METALASTIC ®

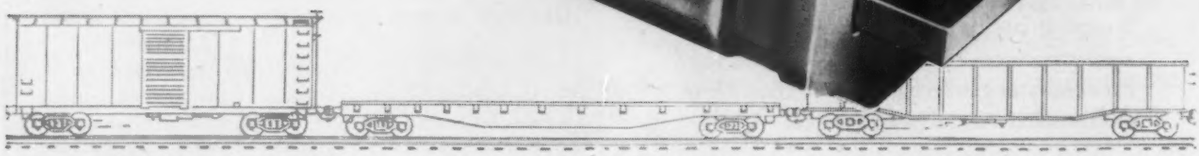
. . . a long-lasting finish coat with exceptional weathering characteristics. It possesses the water-shedding properties of carbon and graphite . . . provides a film that's tough and elastic to withstand contraction, expansion and the extremes of temperature and moisture. It is fast-drying, bringing the freshly-applied paint past the danger of damage by rain in the shortest time.

SHERWIN-WILLIAMS
RAILWAY FINISHES

protection

for cars and lading

Specify
WESTINGHOUSE
FRICTION DRAFT GEARS
Certified A. A. R

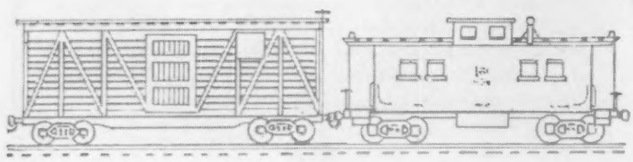


ABSORPTION

ENDURANCE

STURDINESS

CAPACITY



CARDWELL FRICTION
BOLSTER SPRINGS
Short or Long Travel

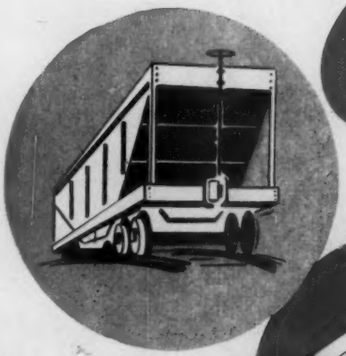
Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

288R

SAVE TIME and MONEY

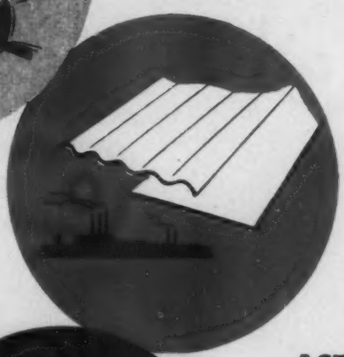
by using these dependable

Carey PRODUCTS



ASPHALT CAR CEMENT

—for protecting underframes and car end walls against rust, corrosion and abrasion. Effectively seals out dust and moisture. Can be applied by spray or brush.



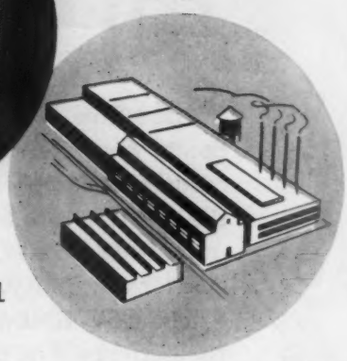
CAREYSTONE ASBESTOS-CEMENT

—made in big handy sheets, flat or corrugated. Will not rot, rust, corrode, burn or warp. Resists weather, rodents, termites. Needs no preservative treatment.

Acid Proof Paints
Asbestos Shingles and Sidings
Asphalt Shingles and Roll Roofing
Asphalt Tile and Industrial Flooring
Battery Sealing Compound
Asphalt Bridge Plank
Car Lining
Cold Storage and Refrigerator Car Insulation
Expansion Joints for Concrete and Masonry Structures
Fireproofing Materials
Fire-Chex Shingles
Locomotive Lagging (85% Magnesia)
Locomotive Packing
Mastic Flooring (Asphalt)
Paints and Coatings
Pipe and Boiler Covering (85% Magnesia)
Freight Car Roofs
Smoke Jacks
Tank Car Insulation

ASBESTO-SORB

—thirsty fibers of asbestos that soak up oil, water, grease, chemicals. Use in diesel shops to help maintain safety underfoot. Approved by Underwriters' Laboratories, Inc.



BUILT-UP ROOFING

—for every railroad requirement. 5 to 20 year bonded roofs; roof maintenance paints and coatings, asbestos felts for highest fire resistance. Free Roof Check service by expert Carey roofing engineers.

ASK YOUR CAREY INDUSTRIAL SALES ENGINEER

to show you how Carey products can help you maintain rolling stock and equipment, more efficiently, more economically. Call him in today — or mail coupon for information on specific products.

SERVING INDUSTRY SINCE 1873

Carey

The Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio
In Canada: The Philip Carey Co., Ltd., Montreal 3, P. Q.

RA-3
THE PHILIP CAREY MFG. CO., Lockland, Cincinnati 15, Ohio

☐ Please send me bulletins describing the following Carey railroad products (please list products you desire to know more about)_____

☐ Have the Carey Industrial Sales Engineer in my area call on me.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

PRESSED STEEL CAR
builds a better car HERE...

Automatic and semi-automatic submerged-arc welding equipment is utilized in building PSC Standard Payloader Hopper Cars in our Mount Vernon plant. Cars are rotated in Pandjiris Positioner (top picture) for more efficient "down welding" as shown in picture above.

Pressed Steel Car engineers have helped to make fact of the theory that standard design for hopper cars would help railroads reduce operating costs. With a clear understanding of the treatment which these cars must undergo at loading and unloading points, they have developed a hopper car with greater durability.

The PSC Standard Payloader Hopper Car is the result of their efforts. The performance of 1000 of these cars, purchased by the C&EI Railroad, is proof that PSC engineers have developed a better hopper car.

700 50-ton and 300 70-ton PSC Standard Payloader Hopper Cars were delivered to the C&EI in the first quarter of 1952. These cars are in a type of service, which is described by Mr. George E. Bennett, Superintendent of Motive Power, C&EI Railroad, as being "severe." He states: "...Most of the service

to give better service HERE

of these cars has been between southern Illinois coal fields and our river terminal at Joppa, Illinois on the Ohio River. A shaker is used to unload the coal into the barges, which we consider a very severe service, and to date we have noted no deterioration or mechanical defects in the cars from this type of service."

The all welded design of the PSC Standard Payloader Hopper Car is the key to its success on the road. Greater strength is provided to assure longer service life. Smooth all welded interior insures a faster, complete discharge. No pockets to permit accumulations with accompanying corrosion.

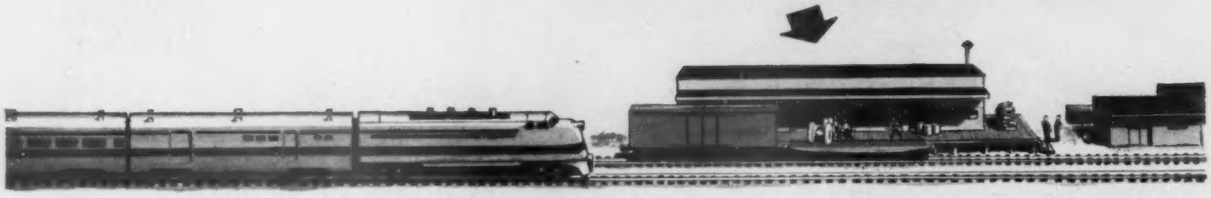
In *all* details, the PSC Standard Payloader Hopper Car meets the same high specifications in materials, construction and design that have featured Pressed Steel Car products since the company made the first all-steel hopper car in 1897. Write for further information on the Standard Payloader Hopper Car and the Pressed Steel Car Program of Standard Freight Cars.

Straight side of car shown attests to the strength which PSC all welded design provides. This car and 999 similar cars, built by Pressed Steel Car Company, for the C&EI, have for the most part been assigned for more than a year to severe coal shake-out service.

PRESSED STEEL CAR COMPANY, INC.

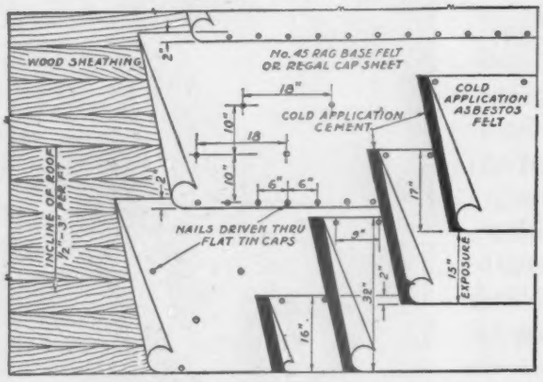
6 N. MICHIGAN AVENUE • CHICAGO 2, ILLINOIS

When your hard-to-reach buildings need reroofing



...Johns-Manville Cold Application Built-Up Roofs offer economical application by company crews

FOR WOOD DECKS ONLY



Plan showing method of laying Johns-Manville Cold Application Built-Up Roof.

For further information, regarding this and other types of Johns-Manville roofs, see your J-M Representative, or write Johns-Manville Box 60, New York 16, N. Y.

WHEN reroofing is necessary on small buildings located in remote places along the right of way, it is often impractical to apply the conventional hot application built-up roof.

To meet such conditions, Johns-Manville has developed an Asbestos Cold Application Built-Up Roof. The roof is made up of special Johns-Manville Asbestos Felts that are cemented together in application with a cold applied cement brushed in place.

This eliminates the need for roofing kettles, and saves the time required to heat the binders used when hot application roofs are applied.

Built for long years of service, Johns-Manville Cold Application Built-Up Roofs offer an economical and practical method for roofing small new buildings and replacing those on old buildings.

JOHNS-MANVILLE JM PRODUCTS **Johns-Manville** 95 YEARS OF SERVICE TO TRANSPORTATION

BRUTE STRENGTH For Starting

THANKS TO BATTERY POWER!

It takes plenty of brute strength to start a cold diesel. Dependable Gould Starting Batteries give you just that! These batteries have extra power for fast breakaway torque . . . extra reserve for continued cranking to firing speed . . . in *any* weather. Specify Gould and enjoy highest availability at lowest possible cost.

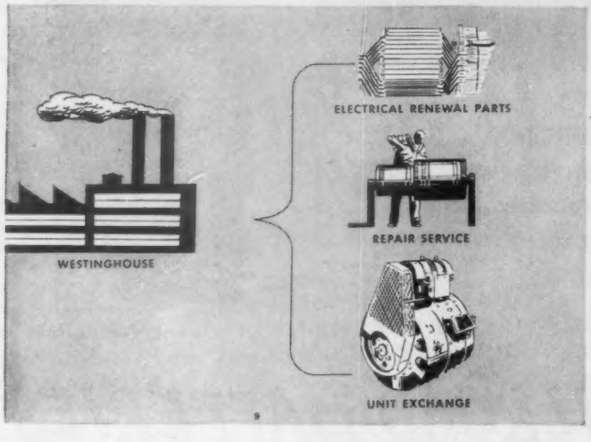
Specify
GOULD KATHANODE
BATTERIES
For Diesel Starting

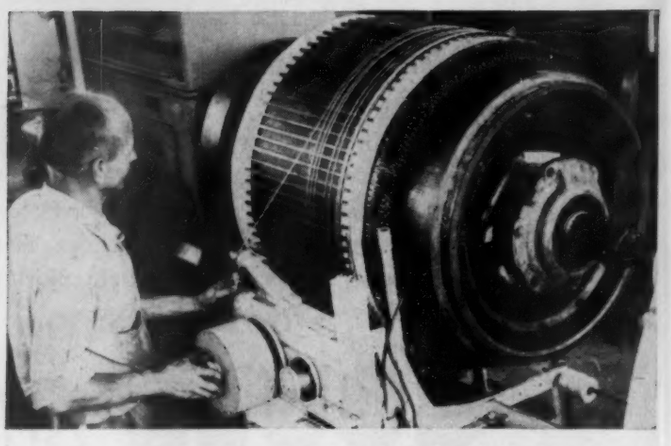
GOULD RAILROAD BATTERIES

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, N. J.

Always Use Gould-National Automobile and Truck Batteries

©1953 Gould-National Batteries, Inc.





Nationwide maintenance service for diesel-electric locomotives:

Quality repair and return service is assured by highly skilled craftsmen using factory-approved methods and materials. We offer a nationwide service of 37 repair plants, 24 of which specialize in diesel-traction repairs.

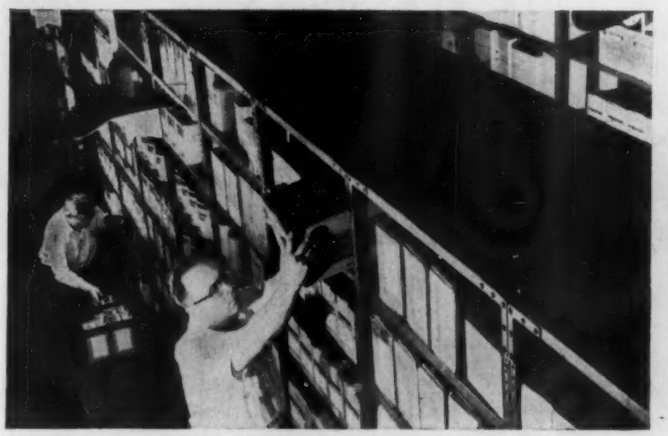
Your electrical maintenance problems solved by new Westinghouse Service Plan

An individually tailored service plan for diesel electric locomotives can be developed to meet your specific requirements. Our transportation specialists will gladly help you work out a plan that will speed and simplify all electrical transactions.

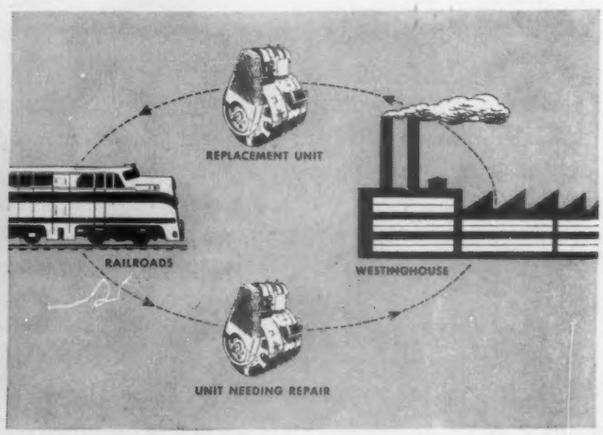
No matter what your service problem may be, a Westinghouse service facility can quickly and efficiently handle your requirements. Let us help you set up a method of operation whereby we can be your electrical maintenance facility. For complete information, write for B-5934, or call your nearest Apparatus Sales Office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania J-93507

YOU CAN BE **SURE**... IF IT'S

Westinghouse



Quickly-available renewal parts are assured by strategically located warehouses. These parts are factory built. They meet the same rigid specifications as your original equipment.



Unit exchange plan available without premium on Westinghouse Equipment . . . reduce your inventory of complete equipment and eliminate the need for emergency repairs . . . put locomotives back in service faster with *guaranteed* equipment.

The Quick Easy-to-Use Efficient Wrap-On Insulation

INSUTAPE®

Unarco Wrap-On Insutape is ideal for sharp-curving pipes; close clearances; difficult-to-reach locations. It withstands intense heat, weather, vibration—saves fuel—protects personnel. And this neat, trim insulation may be removed and reapplied repeatedly without loss of high efficiency. That's why, for long service life and effective economy, railroads have *standardized* on Insutape for both steam and Diesel locomotives. Made of long-fiber asbestos rovings enclosed within a tubular, woven asbestos jacket, heavily Neoprene-coated to resist abrasion, moisture, oil, and grease. Insutape actually pays-its-way in savings.

UNARCO

Write for new Insutape Folder, Form No. 76-135

UNION ASBESTOS & RUBBER COMPANY

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

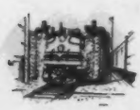
Split Second Time Table

ON TRUCK DROPS!

Now you can hold to a tight schedule on Diesel truck or wheel changes – making lay-up time a matter of hours instead of days! Whiting Drop Tables speed repair and maintenance on locomotives, coaches and tenders. They save manpower and help assure uninterrupted, *profitable* operation. *Engineered* and built to *specific* needs, over 500 Whiting Drop Table installations are serving railroads throughout the world. Capacities range from 10 to 150 tons – designed to the requirements of the most modern Diesel electric or steam shops.

Write today for a Whiting Drop Table Bulletin which shows a variety of applications.

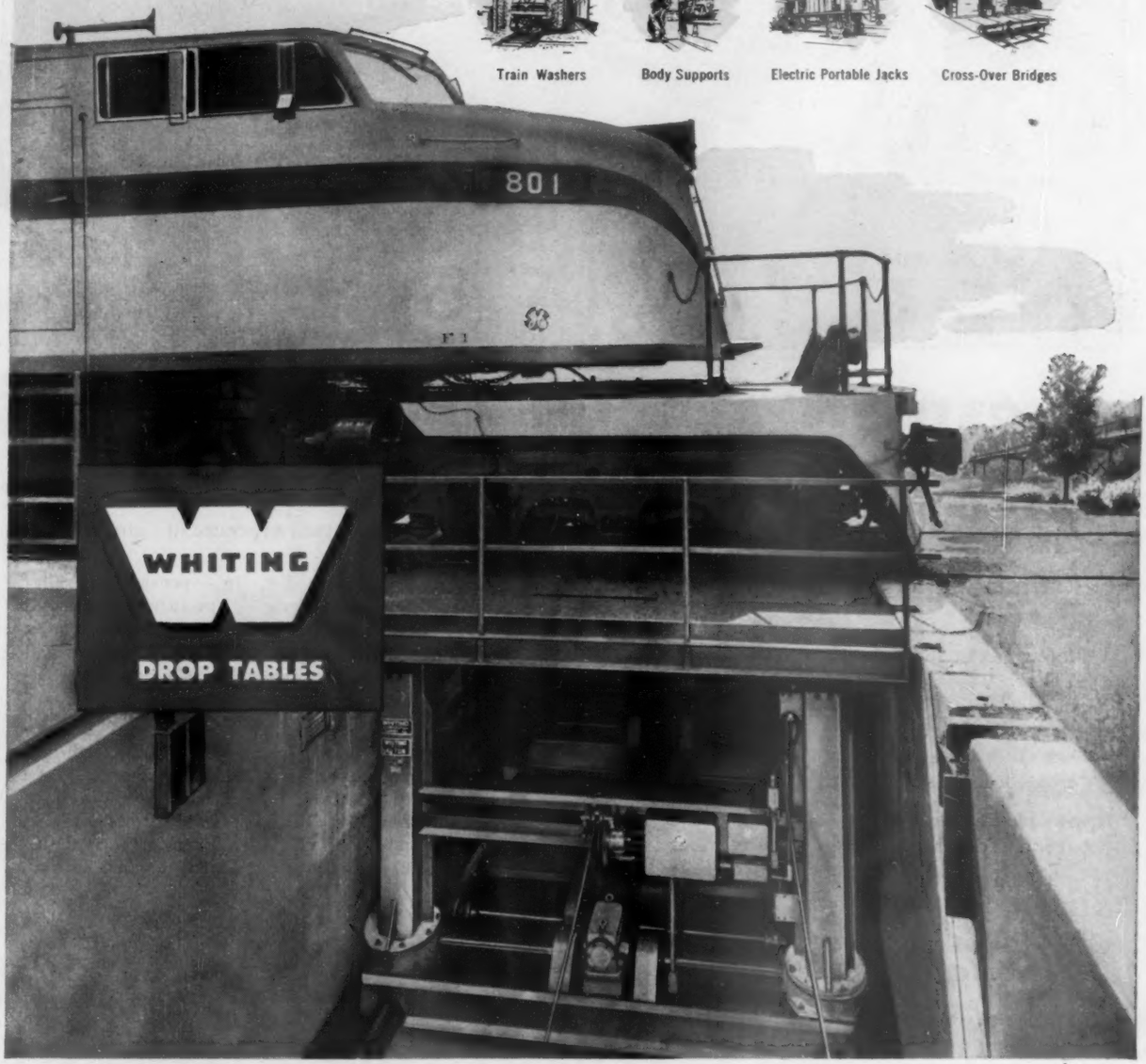
WHITING CORPORATION
15603 Lathrop Avenue, Harvey, Illinois
Sales Offices and Distributors Throughout the World

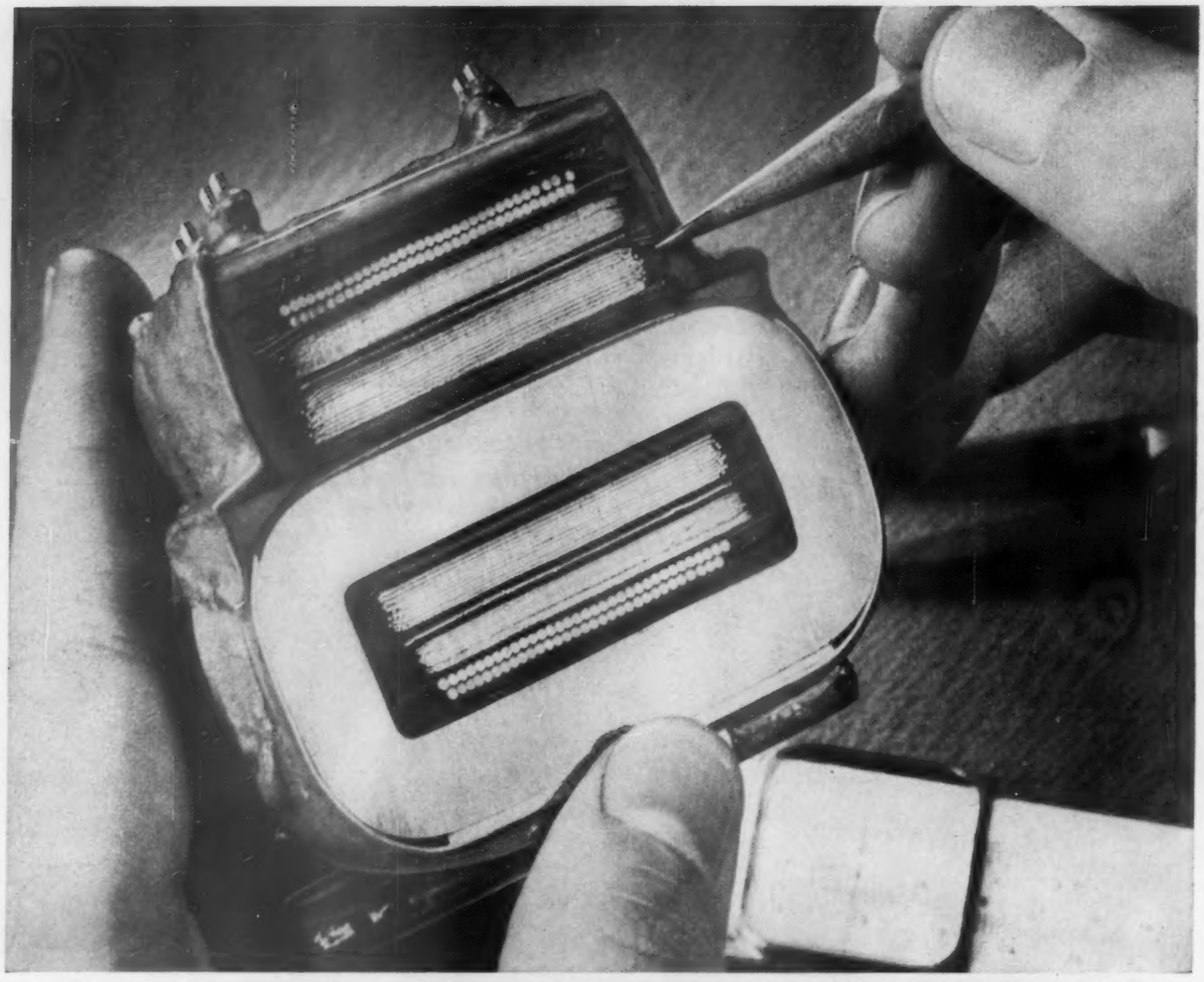

Train Washers

Body Supports

Electric Portable Jacks

Cross-Over Bridges





FOSTERITE® ADDS LIFE AND DURABILITY TO RAILROAD RADIO TRANSFORMER

"Inside Story" Shows Westinghouse FE Railroad Radio Is Proved For Availability

Here is a typical Westinghouse FE Railroad Radio transformer, its carefully assembled core and coil cut in half. The pencil points to the reason why this coil has a longer, more efficient life. The reason is Fosterite – the exclusive Westinghouse impregnating plastic that fills under vacuum all openings in the coil . . . positively seals it off from adverse effects of moisture, dirt and corrosive fumes.

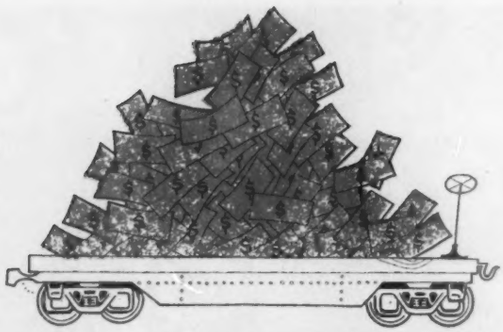
A second Fosterite treatment coats the outside also, helps the transformer core to resist corrosive atmosphere. Type FE Railroad Radio transformers have greater heat-dissipating ability, too . . . can be operated in higher ambient temperatures.

Westinghouse FE Railroad Radio – proved for availability–is the only radio designed specifically and exclusively for railroad service. Type FE equipment reflects the years of practical experience Westinghouse has had with railroad radio...is engineered to take rigorous in-service punishment and to supply reliable communications.

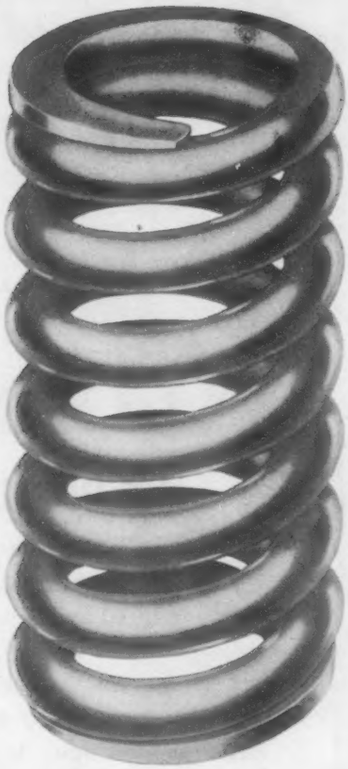
For complete end-to-end, train-to-train, and train-to-wayside communications for any and all railroad yard and mainline operations, examine Westinghouse Type FE Railroad Radio now. Write for full information to: Westinghouse Electric Corporation, Electronics Division, Communications Section, 2519 Wilkens Avenue, Baltimore 3, Maryland. Ask for our Railroad Radio booklet.

YOU CAN BE SURE...IF IT'S **Westinghouse**

J-02266



Pile up operating profits with



"RAILWAY" SPRINGS

Increased net revenue because of reduced damage claims—that's the result many railroads have achieved by using the long travel springs made by Railway Steel-Spring Division.

Not only do these "built-to-take-it" coil springs smooth the bumps, but they lengthen the life of rolling stock and reduce maintenance costs of roadbed.

"Railway" Springs are the product of the experience and research of one of the oldest spring manufacturers in the country. Why not let *"Railway"* long travel springs increase your operating profits? For complete information, contact your Alco sales representative in New York, Cleveland, Chicago, Richmond, St. Louis, St. Paul, San Francisco.

Railway Steel-Spring Division

AMERICAN LOCOMOTIVE COMPANY

YOUNGSTOWN
Cold Finished
CARBON AND ALLOY STEEL BARS
Uniformly satisfactory in service because—
Machinability is outstanding
Tolerances are uniformly close
Metallurgical characteristics are rigidly controlled

QUALITY YOUNGSTOWN SERVICE

OF PRODUCING STEEL

●Here's why the bars you get from Youngstown will meet your exact requirements. They're drawn from steel produced by an organization that's been making and rolling highest quality steel for 50 years.

Youngstown Cold Finished Carbon and Alloy Steel Bars are furnished in standard shapes and sizes, in both coils and straight lengths. For further information, phone or write our nearest District Sales Office.

Youngstown COLD FINISHED CARBON AND ALLOY STEEL BARS

THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*
General Offices: Youngstown, Ohio - Export Office: 500 Fifth Avenue, New York 36, N. Y.
PIPE AND TUBULAR PRODUCTS - CONDUIT - BARS - RODS - COLD FINISHED CARBON AND ALLOY BARS - SHEETS - PLATES - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - RAILROAD TRACK SPIKES

World's most powerful

wheel rolling mill

puts extra mileage in

Edgewater Wheels

Edgewater's exclusive forging and rolling process converts heated blocks, previously sliced from ingots, into rolled steel wheels. The powerful rolling mill makes it possible to do most of the mechanical work on the rim of the wheel by a rolling action which eliminates the necessity of intermediate heating and insures the uniform fine structure essential to long service life.

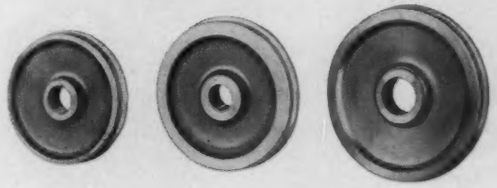
Above, in the background, a heated block is ready for forging into a blank. Completed blank is moved to rolling mill (below) where, as it revolves between rolls, the rim diameter is increased and the flange formed.

Edgewater Steel Company

P. O. BOX 478 • PITTSBURGH 30, PA.

Makers of Rolled Steel Wheels

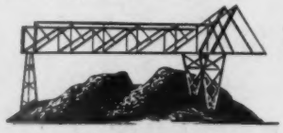
for Freight Cars Passenger Cars Diesel Locomotives

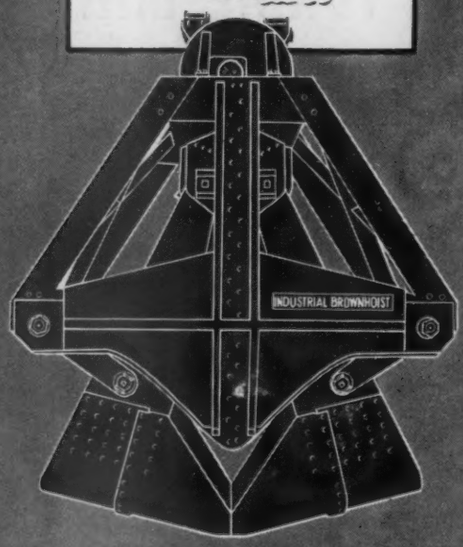


BROWNHOIST

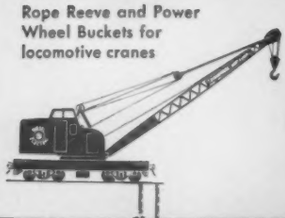
ALSO BUILDS BETTER BUCKETS

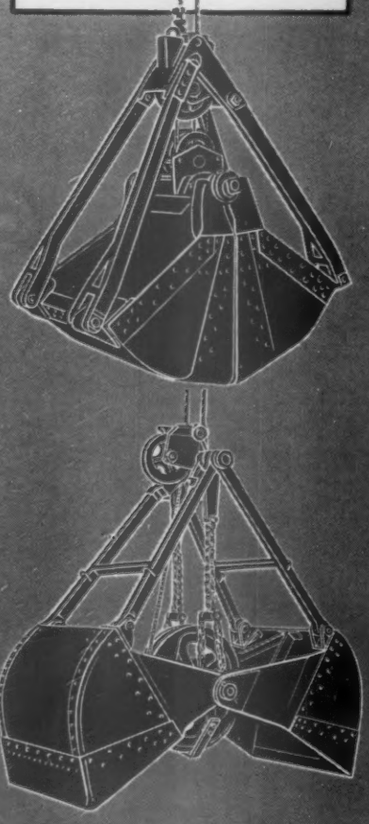
Link Type Buckets for boat unloaders, bridge cranes, fast plants





Rope Reeve and Power Wheel Buckets for locomotive cranes





Brownhoist Buckets are designed for specific jobs and especially engineered to meet the toughest materials handling requirements. They take deep, full capacity bites that move more materials per lift, thus making possible considerable savings in man-hours and production time. They are built for endurance and dependability, the same qualities that have accounted for Brownhoist leadership in the bulk materials handling field for more than three quarters of a century. Railroads, steel mills and dock operators who are loading and unloading coal, ore, slag or other bulk materials will find it pays to discuss their requirements with Brownhoist engineers.

BROWNHOIST builds better cranes

INDUSTRIAL BROWNHOIST CORPORATION • BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Cleveland, San Francisco, Chicago; Canadian Brownhoist, Ltd., Montreal, Quebec • AGENCIES: Detroit, Birmingham, Houston, Los Angeles

164

a 10-year record of improved values

1941-1946 Improved Control of mottled iron formation, providing clearer chill at tread and more impact resistant gray iron backing.

1945 AMCCW plants adopt limitation on chill depth in rim.

1945 Rim thickness increased.

1947 More rigid inspection and standards for rotundity adopted for wheels shipped from AMCCW plants.

1950 New wheel design features heavier tread (stronger flange and rim) and more brackets (thicker, heavier, more continuous flange support).

1951 New wheel design advanced from "Recommended Practice" to "AAR standard."

the inside story of the chilled car wheel

This record of progress gives you the inside story of why AMCCW wheels are making better and better safety records...a ratio of 133 million car miles in 1951 without failure, and evidence of still better performance in 1952. (And the new AMCCW design with its 100% increase in rim strength and 20% increase in flange strength is just beginning to affect these figures!) The record shows why chilled car wheel performance has improved continuously over the years, and is a pretty good indication of why it will continue to improve in the years to come.

Quick, low-cost delivery of chilled car wheels from the AMCCW plant near you.

In good supply
Available locally
Short-haul delivery
Reduced inventory
Low first cost
Low exchange cost
Increased ton mileage
High safety standards
AMCCW plant inspection
Easier shop handling

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

445 North Sacramento Boulevard, Chicago 12, Ill.

Albany Car Wheel Co. • American Car & Foundry Co. • Griffin Wheel Co.
Marshall Car Wheel & Foundry Co. •
Pullman-Standard Car Mfg. Co. • Southern Wheel (American Brake Shoe Co.)

New York
New Haven
and Hartford

THE NEW HAVEN, RDC, AND NEW ENGLANDERS ARE GETTING ALONG VERY WELL TOGETHER

So well, for example, that on the re-activated passenger service, after a lapse of twenty-eight years, between Worcester and New London, the New Haven carried 82,000 passengers during the first year. This was done with one RDC, Monday through Friday, and two RDC's on Saturday and Sunday.

During the same period, their traffic in and out of South Station, Boston, increased by six thousand passengers a day.

In the Naugatuck Valley, in Connecticut, RDC's are saving on operating costs at the rate of $250,000 a year.

As this is written, the New Haven has forty Budd RDC's in operation. One hundred and four new trains have been added to their schedules.

The Budd Company, Philadelphia 15.

Budd

RDC BRINGS THEM BACK TO THE RAILS

PENTA TREATMENT WILL PROTECT YOUR INVESTMENT IN LUMBER

Clean PENTA makes wood last 2 to 4 times longer... cuts repair and replacement costs

The Dow Chemical Company
Dept. PE 3-3A4, Midland, Michigan

Please send me:

_____ Plant wood treating specifications.

_____ Valuable booklet, "Pointers on Penta."

_____ Sources of treated wood.

Name_____

Title_____

Company_____

Address_____

City_____ State_____

It's a matter of record that PENTA* treatment is the sure way to protect your investment in railway lumber. Because PENTA gives positive protection against decay and termites you can be sure that platforms, loading docks and car lumber will last years longer. Longer life for all your wood construction means big savings in repair and replacement costs.

This is only part of the return you will realize from PENTA-treated wood. Besides controlling decay and termites, PENTA builds good customer relations because it is *clean*. Platforms built with PENTA-treated wood are pleasing to the eye, and easy to walk on.

Workmen like *clean* PENTA-treated wood, too, because it is easy to handle.

In your choice of a wood preservative, specify *clean* *PENTAchlorophenol. Send for more detailed information today, write THE DOW CHEMICAL COMPANY, Midland, Michigan.

you can depend on *DOW CHEMICALS*

DOW

detect train breakaway, pipe leakage, rear-end brake applications.

● Now you can prevent costly train operating delays with the Westinghouse Air Brake Company Brake Pipe Flow Indicator.

This money-saving device does more than measure brake pipe pressure, it measures the *volume* of air flowing from feed valve to brake pipe. Take, for example, a rear-end pressure drop that would not be immediately noticeable on the pressure gage. The Brake Pipe Flow Indicator instantly senses the increased flow of air and warns the engineman.

It works the other way around, too. The engineman knows when the train is fully charged and ready to go, thus eliminating pull-aparts due to unreleased rear-end brakes. When adjusting feed valve to higher pressure preparatory to descending grades, the engineman can easily tell when he has reached the new pressure. The flow indicator also shows whether brake pipe pressure is being properly recharged during each braking cycle.

The Westinghouse Brake Pipe Flow indicator is ruggedly built to withstand the most severe pressure fluctuations. It is available for operation on either 32 or 64 volts. Write today for our free booklet that describes this time-saving protective device.

Westinghouse Air Brake
COMPANY

AIR BRAKE DIVISION WILMERDING, PA.

DOW

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you can depend on *DOW CHEMICALS*

DOW

Avoid pull-aparts

detect train breakaway, pipe leakage, rear-end brake applications.

● Now you can prevent costly train operating delays with the Westinghouse Air Brake Company Brake Pipe Flow Indicator.

This money-saving device does more than measure brake pipe pressure, it measures the *volume* of air flowing from feed valve to brake pipe. Take, for example, a rear-end pressure drop that would not be immediately noticeable on the pressure gage. The Brake Pipe Flow Indicator instantly senses the increased flow of air and warns the engineman.

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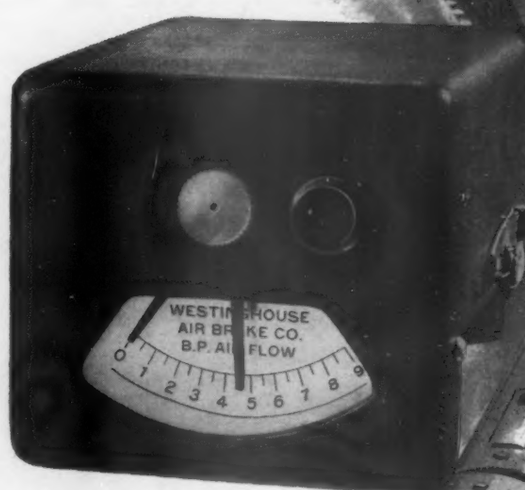


Westinghouse Air Brake COMPANY

AIR BRAKE DIVISION WILMERDING, PA.

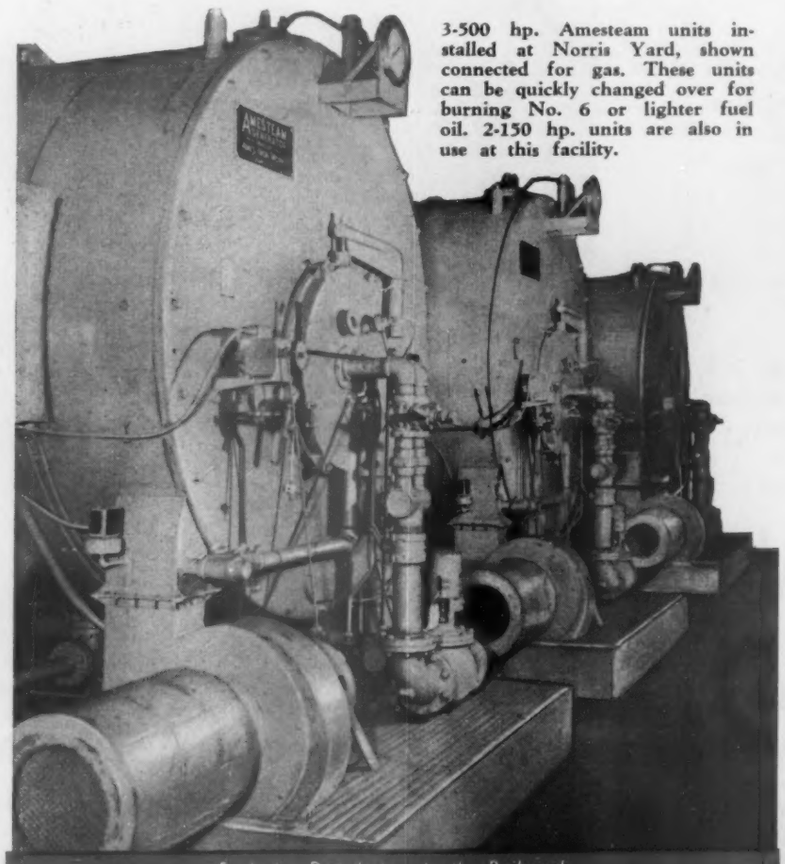
AMESTEAM . . .

At Norris Yard

HAILED as one of the most modern freight yards in the country, the Southern's $11 million Norris Yard at Birmingham is equipped with the most advanced devices and communications. The Diesel shop and other facilities at this outstanding "push-button" yard are served by three 500 hp. and two 150 hp. AMESTEAM Generators. Here again as in a host of other rail installations, "the Railroad Boiler" is providing substantial savings.

Completely automatic, these units provide dependable heat and process steam at low cost. No boiler room attendants are required. AMESTEAM evaporates 15¾ pounds of water on 1 pound of fuel using No. 6 oil — representing better than 80% thermal efficiency, which is guaranteed. Single units from 10 to 600 hp. Design pressure — 15 to 200 lbs. Higher pressures on special order. *Phone, write or wire.*

"The Railroad Boiler"



3-500 hp. Amesteam units installed at Norris Yard, shown connected for gas. These units can be quickly changed over for burning No. 6 or lighter fuel oil. 2-150 hp. units are also in use at this facility.

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Current Publications

BOOKS

An Economic Investigation of Solid Journal Bearing Operation in Freight Service on Two Large Class I Railways. By Prof. Roy M. Wright (deceased) and Donald E. Taylor, Mechanical Engineering Department, and Prof. Robert Ferber and Frances S. Dotson, Bureau of Economic and Business Research, University of Illinois. University of Illinois Engineering Experiment Station, Urbana, Ill. Bulletin Series No. 406. 110 pages, 6 in. by 9 in. Paper bound. $1.

Through cooperation of two large railroads, which permitted use of all available information pertaining to solid journal bearing operations on their lines, the university was able to conduct this investigation to determine the economic effects of use of solid journal bearings on railroad cars and to make corollary studies of factors influencing hot-box occurrences. Studies made both of direct and indirect costs traceable to use of solid journal bearings and the effects of these costs on railroad operation show bearing costs during 1951 of $7.59 and $8.53 per 1,000 freight car-miles on the two roads, or costs 42.5 and 57.2 per cent, respectively, greater than during 1948 when the investigation was undertaken. The cost investigation procedure presented in the bulletin can be used by any railroad to study its own expenditures.

Behind the Scenes of Business, by Roy A. Foulke. Revised Edition 1952. 194 pages, charts, tables. Dun & Bradstreet, Inc., 99 Church st., New York 8. Free.

"It looks as if we are entering a competitive period when value and prices will again play their part after 12 years of a sellers' market," says the author of this completely revised and rewritten edition of a volume on management problems and financial ratios first issued in 1935.

Commenting on the fact that we have been operating in a "pressure economy," Mr. Foulke points out that there has been a statistical turnover of business and management twice since the severe competition of depression years, and warns of the need for an appraisal of management to meet the changing industrial and commercial situation.

Of the nine chapters, the first deals with management responsibilities, and the vision that inspires sound policies. The next four chapters consider financial analyses and applications of financial analyses of capital, inventory, sales and net profits of a business concern. Chapter Six deals with elements of successful management, especially under competitive and often adverse conditions.

"The Relativity of the Moral Hazard," is a new chapter which deals

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Here's the *practical, sensible* answer to your rust problems! Costly sandblasting or chemical precleaning are not usually required . . . just wirebrush and scrape to remove rust scale and loose particles . . . then apply RUST-OLEUM by brush, dip, or spray over the rusted surface. Dries to a tough, elastic, rust-resisting film that lasts longer applied over rusted areas. So easy to use that one man often does the work of two . . . saves you time, labor, and money. Get the complete story from your RUST-OLEUM Rust Preventive Railroad Specialist today!

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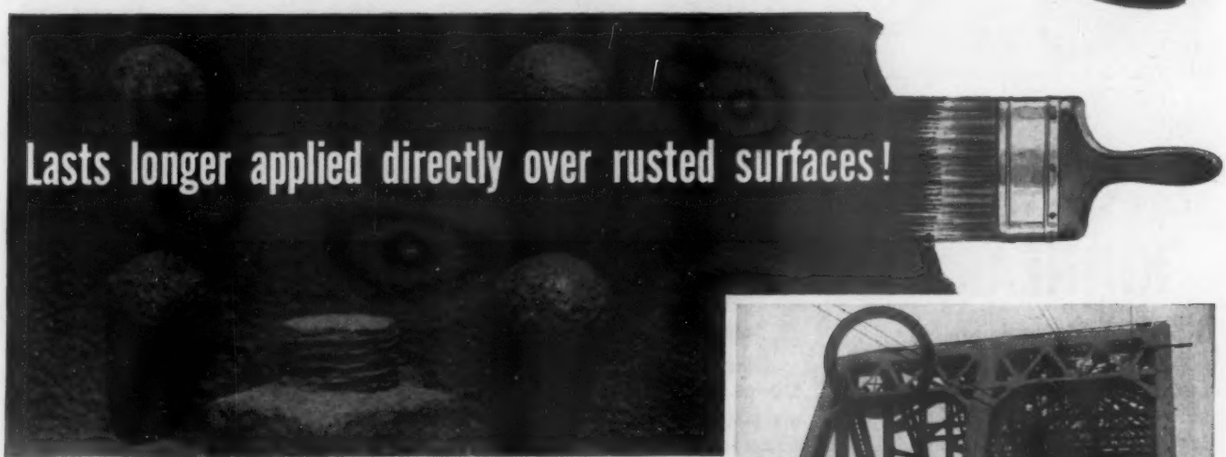

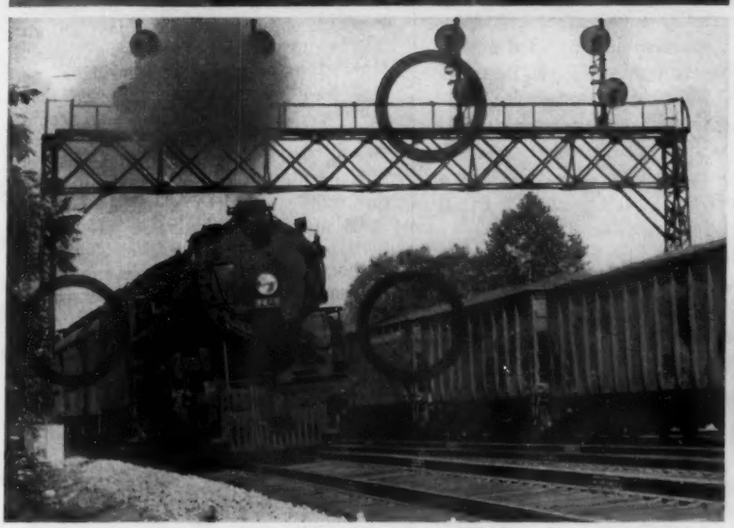

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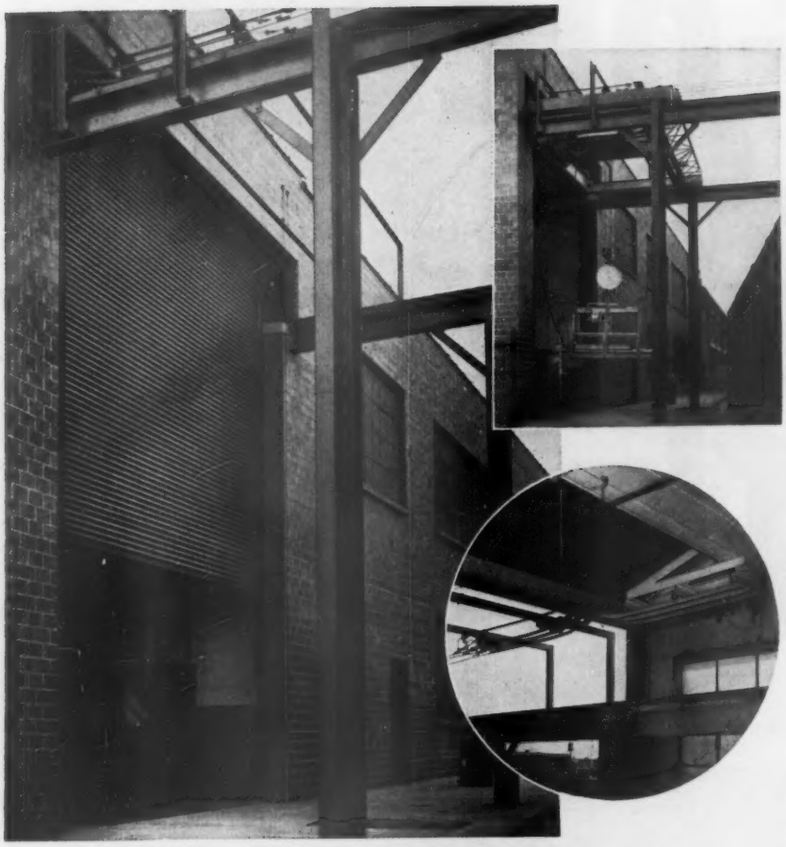

BIG CRANE OPENING

shows advantages *all* doorways gain with

KINNEAR Steel Rolling Doors

It takes more than just "a lot of door" to fill the bill in this big crane opening at the factory and general office building of White Castle System, Inc., Columbus, Ohio.

The door must operate efficiently, close effectively, cut space loss to the bone, and stand up under years of frequent use. Kinnear Steel Rolling Doors score high on all these points.

At the touch of a push button, a Kinnear Motor Operator raises the 450-square-foot door into remarkably small space above the opening. Movable steel jamb sections at the top of the opening pivot upward automatically, clearing trolley area above crane tracks. A special "bridging" arrangement permits a gap in the trolley lines supplying electric power to the crane.

Advantages Kinnear Steel Rolling Doors bring to all service openings are also realized in special situations like this—the protection, fire-safety and durability of all-steel construction . . . space-saving upward action . . . complete jamb-to-jamb, floor-to-lintel clearance of the opening . . . jamb-anchored security against wind or storm damage *whether opened, closed, or in action* . . . ideal for motor operation . . . neat appearance at all times, and many others!

Kinnear Steel Rolling Doors are built to fit any opening. *They've proved their extra value for more than half a century.* Write for full details today.

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KINNEAR ROLLING DOORS
Saving Ways in Doorways

with the subject of moral hazard. In a chapter entitled "Old Age of the Business Enterprise," Mr. Foulke depicts the evidence, reasons and results of debility of an enterprise. The final chapter attempts to alert businessmen to risks ahead, and ways and means of avoiding hazards to their business progress. He recommends an alert recognition of all elements of change, and use of the successful approach to problems of management.

The 14 important ratios at the end of the book cover the years 1947-1951, and are based on yearly figures of 70 lines of business activity among many thousands of manufacturers, wholesalers and retailers with a net worth of $50,000 and over.

Money, Men and Machines, by Waddill Catchings and Charles F. Roos. 116 pages. Duell, Sloan & Pearce-Little, Brown & Co., 124 E. 30th st., New York 16. $2.50.

The foreword to this book says it "has been written for four essential reasons: (1) To make clear that the federal government, in managing the stream of our circulating money, exercises vast power over the daily economic life of the United States; (2) to show that our officials today, in exercising these regulatory powers, are interfering with successful operation of our economic machinery; (3) to state why our economic leadership is taking us away from economic freedom, and toward more and more government control of economic life; and (4) to suggest a new objective of monetary control which will enable America to maintain a high level of employment and production by avoiding the great increases and decreases in the supply of money that causes booms and depressions. The authors believe that the most dangerous threat to our freedom, either from within or without, lies in our confusion of thought concerning our supply of money. The fear of inflation is one of the most powerful forces in our daily life. Congress, influenced by public opinion, passes law after law in an effort to protect the value of the dollar. Meanwhile, almost all Americans, no matter how well informed on other aspects of our national life, are confused and misled on the subject of money. This situation is as tragic as it is needless, since all the knowledge the public requires about causes of inflation and methods of prevention may be easily acquired. In fact, the authors believe it can be learned with no more difficulty than subjects which are taught in elementary school, such as geography and arithmetic. And it is their hope that when you have finished this book, you will readily agree with them."

Chapters cover such subjects as why we have depressions, the Federal Reserve System, methods of control, "Washington takes control," Keynes and his ideas, the "mixed-economy"

Pittsburgh's Hot-Spray CARHIDE

The Two-in-one Freight Car Paint!

Provides twice as much paint in one application . . . Increases paint shop capacity . . . Keeps equipment on the haul for more pay hours

YOU'LL get more pay hours from your freight rolling stock when you paint them with Pittsburgh's Hot-Spray CARHIDE. This latest development in famous CARHIDE railway finishes provides the equivalent of *two coats of paint applied cold with a single application* . . . puts cars into service more quickly . . . keeps them looking better longer.

● **In Hot-Spray CARHIDE,** heat is used in place of conventional thinners to adjust viscosity to weather and temperature conditions. No matter when you paint, this new type of coating goes on more uniformly, has better adhesion, dries quickly to a higher gloss, and gives you tougher, longer-lasting protection.

● **Hot-Spray CARHIDE** can be applied with approximately half the usual air pressure. This reduces the amount of "fog" in the paint shop—more of the solid material reaches the surface being painted. There is less paint sag—more paint is applied with less labor. As there is much less thinner to evaporate from the paint, imperfections from shrinkage are greatly decreased.

● **Refinishing is speeded** as half the time needed to apply two coats, as well as drying time between coats, is eliminated. Shop capacity is practically doubled without increasing space, manpower or equipment.

● **We'll be glad** to give you further details about this new labor-saving freight car paint. A wire, phone call or letter from you may save time and money in your shop, traffic and operating departments.

PITTSBURGH PLATE GLASS CO., Industrial Paint Div., Pittsburgh, Pa. Factories: Milwaukee, Wis.; Newark, N. J.; Springdale, Pa.; Atlanta, Ga.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Div., Detroit, Michigan. The Thresher Paint & Varnish Co., Dayton, Ohio. Forbes Finishes Division, Cleveland, Ohio. M. B. Suydam Div., Pittsburgh, Pa.

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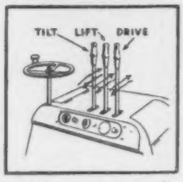
Give You

LEV-R-MATIC DRIVE



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- Speeds All Movements.

MOBILIFT MOBILITY

- 360° Steering—ZERO Inner Turning Radius
- Excels in Close Quarters

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- Ample size platform.
- On and Off in Seconds.
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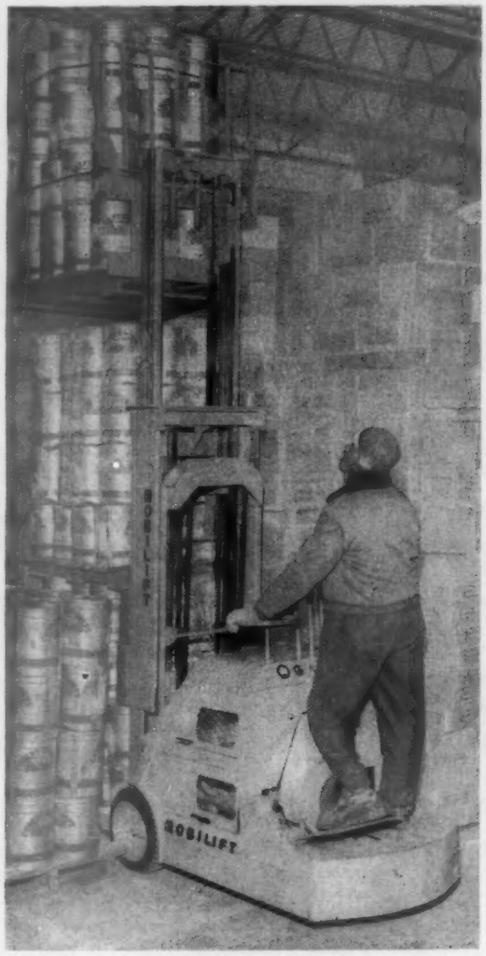

Only MOBILIFT Stand-Up type Fork Lift Trucks give you Lev-R-Matic push-pull controls for forward-back, elevating, tilting...THERE ARE NO GEARS TO SHIFT!

Only MOBILIFTS give you MOBILIFT agility and quickness with their compact design, short over-all length, 360° steering and ZERO inner turning radius. They excel in congested areas.

Only MOBILIFTS give you perfected Stand-Up models—for *more* work, *faster* work, *less* operating expenses.

To these *plus* advantages add MOBILIFT air-cooled 3-cylinder engine's reliable power and easy accessibility for minimum service and repair....The answer is obvious:

YOU'LL ACCOMPLISH MORE, WORK FASTER, EARN MORE WITH MOBILIFT FORK LIFT TRUCKS. ***Write for complete information.***

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myth, the "planned-economy" scheme, the management we need, the facts about inflation, and a science of forecasting.

Traffic Management in Industry, by Leslie A. Bryan. 452 pages. Dryden Press, 31 W. 54th st., New York 19. $5.50.

Mr. Bryan, who is professor of management and director of the Institute of Aviation at the University of Illinois, says his book is designed primarily for student use, and that organization of the material reflects experience gained through many classroom presentations. The opening chapter serves as a general orientation to industrial traffic management. Succeeding chapters describe general functions of a traffic department, its organization, personnel, and administration. Then follows a detailed discussion of specific duties in connection with rates, expediting, intraplant transportation, materials handling, and local transportation. Other chapters deal with traffic geography; express, mail, and passenger service; and traffic service organizations. Legal aspects of traffic and transportation—bills of lading, claims, routing, and I.C.C. procedure and practice—are discussed in detail. The questions which follow each chapter are two-fold in purpose. The first 10 test the student's comprehension of the text and his ability to apply what he has learned to specific traffic problems. The remaining questions have been taken from examinations of the American Society of Traffic & Transportation, and will help to familiarize the student with the kind of information required for certification by the society. The society's latest examination in principles of traffic management is reprinted in full in an appendix. There are included also an extensive traffic glossary; a traffic library, listing periodicals and directories which help to keep the traffic manager abreast of new developments in his field, and suggestions for supplementary reading.

World Railways, 1952-53, Second Edition, edited and compiled by Henry Sampson. 550 pages, illustrations, maps, drawings. Rand McNally & Co., P.O. Box 7600, Chicago 80. $25.

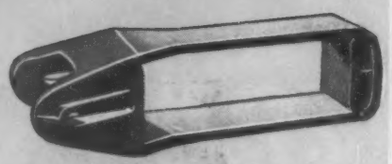
World Railways does for railways what Jane's Fighting Ships does for navies and Jane's All the World's Aircraft does for aviation. It is a survey of 1,447 railways in 101 countries; it contains 594 photographs, 256 drawings and 125 maps. As in the first edition, the book is divided into six geographical areas, the countries in each being arranged alphabetically and individual railways in each country being similarly arranged. Among subjects covered are histories of the various roads; detailed descriptions of rolling stock; routes and mileage of principal systems; data on named trains; information on traffic control and signaling systems; tabular descriptions of rep-

National
Cast Steel
Journal Boxes

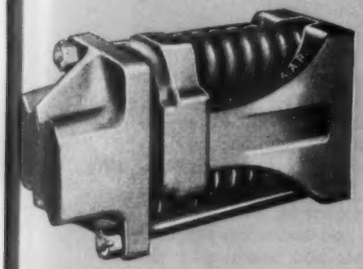
National
Flexo-4
Malleable Iron
Lids

National C-1 Freight Truck

Deflection of load-springs shown for fully loaded car



AAR Standard Vertical-Plane
Horizontal Key Yoke
. . . and full line of other yokes
for rubber and friction draft gear



National
M-17-A Friction Draft Gear

Cutaway view
showing
Friction Mechanism

Note position of friction wedge,
wedge spring, friction wear plate
(hardened steel)

National
Rubber-Cushioned Draft Gears
for
Diesels

For 85 years

NATIONAL

has served

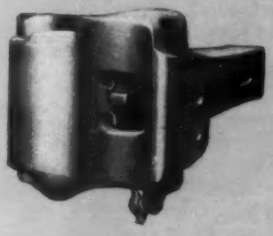
TRANSPORTATION

▲ COMPREHENSIVE RESEARCH ▲

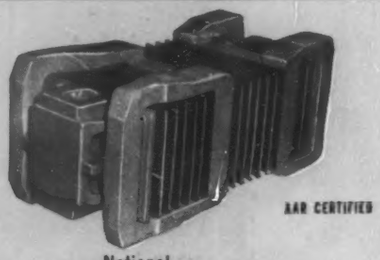
▲ QUALITY CONTROLLED PRODUCTION ▲

for maximum

UTILITY-SAFETY-ECONOMY

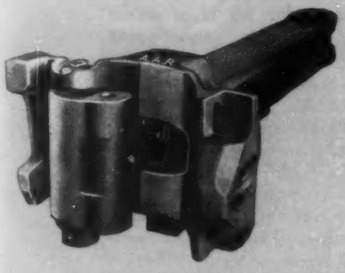


AAR Standard E Coupler

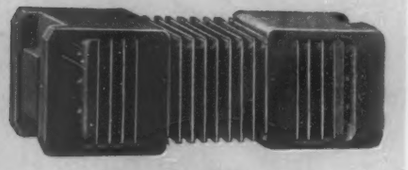


AAR CERTIFIED

National
"Multi-Pad" Rubber-Cushioned Draft Gears
for
Freight Service

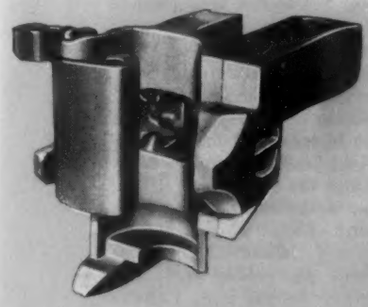


AAR Standard H Tightlock Coupler



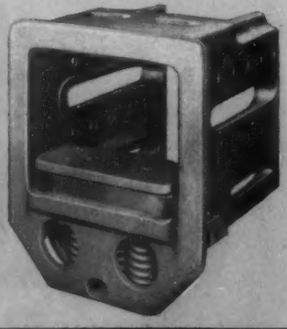
National
"Multi-Pad" Rubber-Cushioned Draft Gears
for
Passenger Service

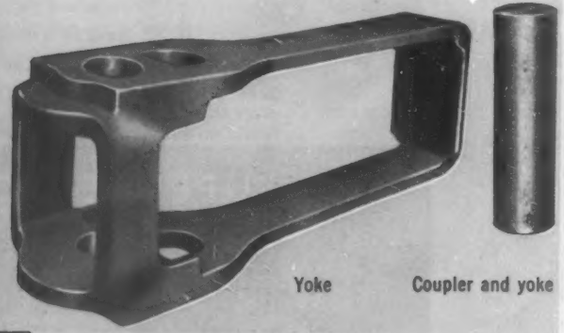
Type F Interlocking Couplers
and Attachments
(some parts not shown)



Type F coupler fitted complete

Striking casting
with flexible
coupler carrier
and yoke
support plate,
assembled





Yoke

Coupler and yoke

A-68

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Cleveland

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NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

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SALES OFFICES: CHICAGO • CLEVELAND • NEW YORK • PHILADELPHIA • RICHMOND • ST. LOUIS • SAN FRANCISCO

NATIONAL
EST 1868
PRODUCTS
and
TECHNICAL
SERVICES

Economical and *Fast*
Steam Generation
For *all* purposes
with the
Elesco Automatic Steam Generator

Push 2 controls and the generator operates automatically.

It saves space and weight.

Low investment cost.

Quick installation.

Steam is available in 3 minutes after generator is started.

Dependable safety controls.

Employs Controlled Recirculation...an advanced engineering principle.

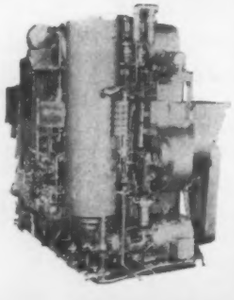
It is built by a leader in the design and manufacture of steam generating equipment, whose name-plate is on many of the world's outstanding and largest steam generators in public utility and industrial steam plants.

If you want the best in automatic steam generators, you will specify ELESCO...a name that has dependably served the railroads for many years.

• • • •

Many railroads use the Elesco Automatic Steam Generator for generating high-pressure steam...almost instantly...for power, heating and cleaning at terminals, engine houses and shops.

ELESCO



A number of diesel-electric freight and road switchers have been equipped with steam generators for passenger service. When they are not in passenger service, their generators, water tanks and piping are exposed to freezing temperatures. Eliminate this hazard with an Elesco Automatic Standby Control.

THE SUPERHEATER COMPANY
Division of COMBUSTION ENGINEERING-SUPERHEATER, INC.
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Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

Superheaters • Pyrometers • Injectors • Steam Driers • Feedwater Heaters
Steam Generators • Oil Separators • American Throttles • Welded Boilers

resentative steam, electric and diesel locomotives; typical gradient profiles; etc. Many new loading and clearance diagrams have been included and various items of text have been amplified and amended.

PAMPHLETS

Engineering; a Creative Profession. 32 pages, illustrations. Engineers' Council for Professional Development, 29 W. 39th st., New York 18. Single copies, 25 cents; in quantities of 50 or more, 20 cents a copy.

Discusses the importance of engineering to our civilization; various fields of engineering work (administration, planning and design, sales and consulting, construction and installation, production and operation, research and development, and teaching); the people the engineer works with; what an engineer must know; how engineers are educated; how an engineer progresses from college to full responsibility in his work; the various branches of engineering (civil, mining and metallurgical, mechanical, electrical, and chemical); and choosing a college.

Railroad Transportation; A Statistical Record, 1911-1951. 44 pages. Association of American Railroads, Bureau of Railway Economics, Transportation bldg., Washington 6, D.C. Free.

These tabulations and charts provide a statistical record of development and technological progress of railways in the United States, beginning with 1911. Pages 1 through 4 contain statistics on mileage and traffic, equipment, finance and personnel, and mileage protected by signal devices for all U.S. steam railways. Statistics on subsequent pages apply to Class I railways only, and cover practically all phases of railway operation. One thing that makes this tabulation particularly useful is that where a series is not available back to 1911, the years for which it is not available are indicated so the user knows he has the series as complete as possible. The booklet concludes with tables showing distribution of commercial intercity freight and passenger traffic, 1939-1951.

Railroad Film Directory. Fifth Edition, 58 pages. Association of American Railroads, Transportation bldg., Washington 6, D.C. Free.

A guide to more than 250 films and filmstrips owned by or relating to American railroads. Included are films which feature history, physical properties, operations, and accomplishments of railroads and the role they play as transportation agencies. The list also includes many films which feature agricultural and industrial developments as well as recreational and scenic attractions in the U.S., Canada and Mexico. The guide has three major divisions: descriptions of films and filmstrips; address list of railroads, commercial distributors and industrial firms; and railroad and subject index.

THE ENGINEER'S REPORT

DATA

LUBRICANT Calol Rail + Flange Lubricant

LUBRICATOR Mechanical

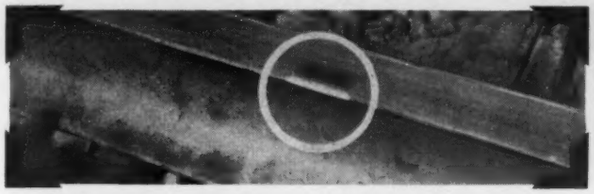
LOCATION California + Oregon

CONDITIONS Ambient temp. -20° F. to 110° F. Continuous use

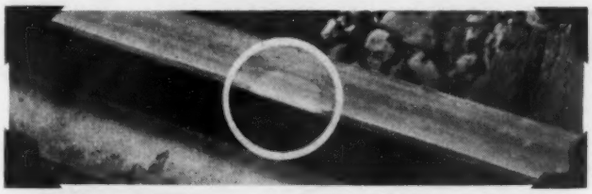
TEST PERIOD 10 months

New rail-flange lubricant meets toughest conditions!

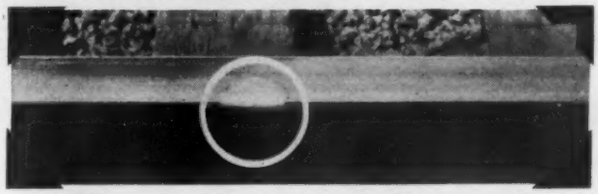
CALOL RAIL AND FLANGE LUBRICANT, tested continuously for 10 months at six locations on a major western railroad, proved entirely satisfactory. Although air temperatures ranged from 20 below zero to 110 above, the lubricant retained correct consistency for good pumpability both in storage and lubricators. Grease buttons on wiping bars remained in position even in direct sunlight. Coverage was excellent, as demonstrated by photographs below of rails at successive curves serviced by the lubricator shown at right.



FILM OF CALOL RAIL & FLANGE LUBRICANT at first curve. Circled area is wiped clean for contrast.



FILM OF LUBRICANT on second curve from lubricator.



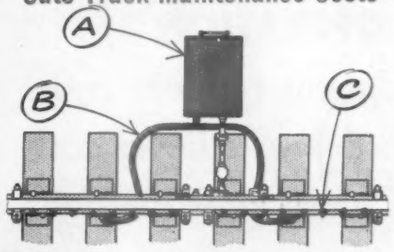
THIRD CURVE. Note grease is still well distributed.

FREE CATALOG: "How to Save Money on Equipment Operation," a new booklet full of valuable information, will be sent you on request to Standard Oil Company of California, 225 Bush St., San Francisco, Calif.

CALOL

TRADEMARK "CALOL" REG. U.S. PAT. OFF.

How Calol Rail and Flange Lubricant Cuts Track Maintenance Costs



A. Stable in use and storage—will not separate, "bleed" or harden.

B. Pumps freely from lubricators from below zero temperatures to over 100 degrees. Retains even consistency.

C. Forms stable buttons which resist high temperatures. Very adhesive — carries for long distance on rails. Resists tendency to pull over tops of rails.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any of the companies listed below.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA OIL COMPANY, Barber, New Jersey • THE CALIFORNIA COMPANY, Denver 1, Colorado

CONSOLIDATE

with G-R-S ALL-RELAY INTERLOCKING

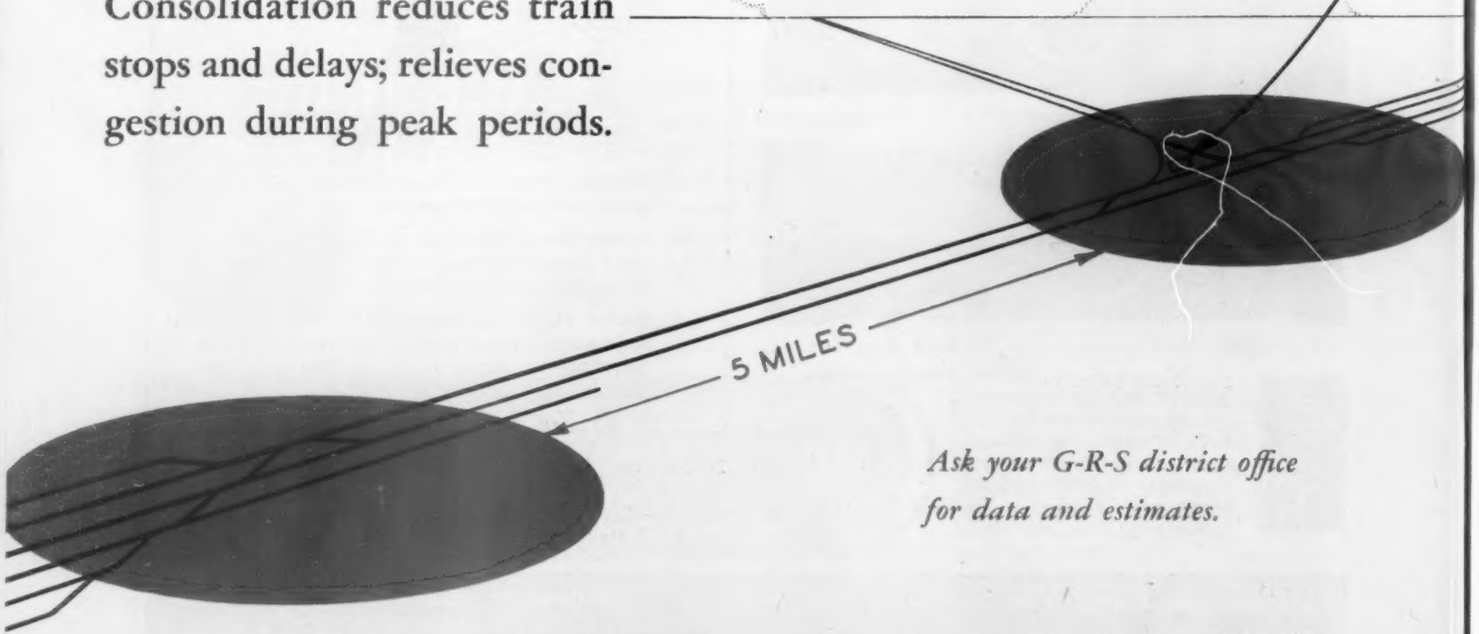
CUT COSTS

Save maintenance and repair of obsolescent equipment and unnecessary towers.

Reduce operating expenses.

IMPROVE OPERATION

Consolidation reduces train stops and delays; relieves congestion during peak periods.



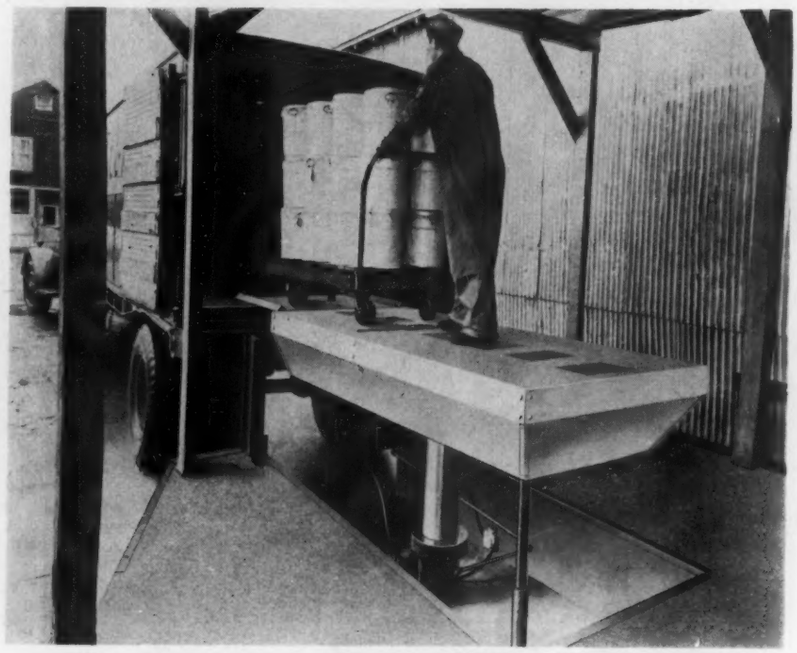
Ask your G-R-S district office for data and estimates.

GENERAL RAILWAY SIGNAL COMPANY

230 Park Av. 1255 Mich. Av. Main Office 611 Olive St.

NEW YORK 17 CHICAGO 3 ROCHESTER 2, N. Y. ST. LOUIS 1

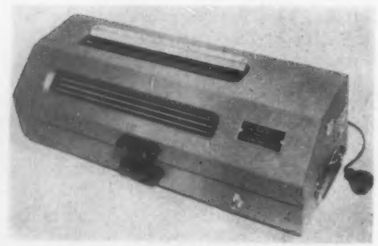
What's New in Products



Automatic Loading Platform

A completely automatic platform for handling loads between loading docks and truck or car floors has been developed by the Field Engineering Company, 66 Foote street, Jamestown, N.Y.

Operation of the platform—known as the "Load-O-Matic"—is started from the loading dock when the front wheels of the platform truck touch a switch bar in the floor of the platform. A leveling ramp automatically stops the platform when it is at the same height as the truck or car floor, and bridges the gap between the two. The trip down is automatically started when the platform truck touches the switch bar from the opposite direction. The standard "Load-O-Matic" offers a traverse of 30 continuous inches between a point 30 inches above the loading dock and 30 inches below •



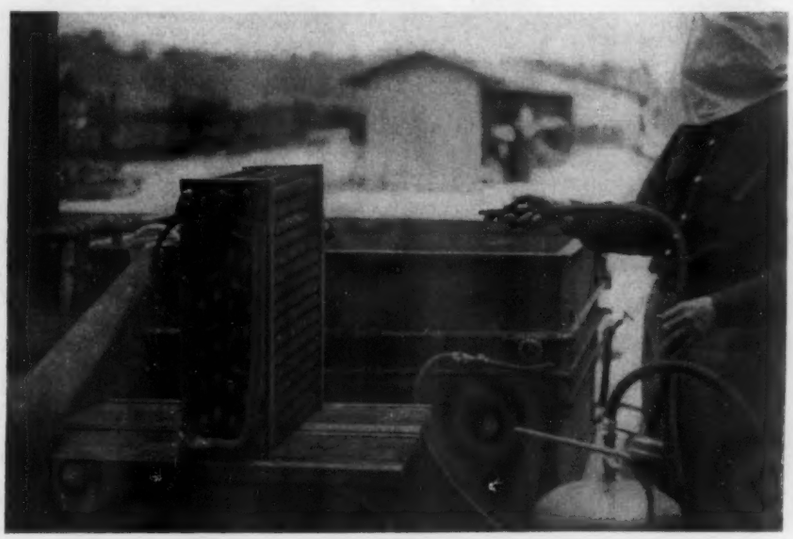
Automatic Continuous Printer For Dry Photo Copies

A new model in the "Exact-Phote-Copy" line of portable dry photo copy machines is now available from the General Photo Products Company, Chatham, N.J. After an exposure is made, it is necessary only to insert the paper negative with a sheet of transfer paper into the new automatic processing unit. The copy is processed and out of the machine, ready to be peeled apart, within 15 seconds. "Exact-Phote-Copy" reproduces 60 to 90 exact copies per hour at a reported cost of about 8 cents each. The machine takes paper 12 in. wide by any length, operates on 115 volts a.c., and weighs only 18 lb •

Sand Cleaning of A. C. Condensers

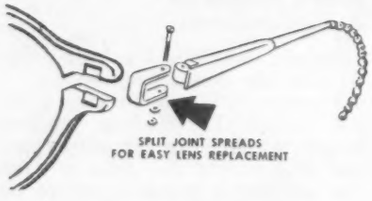
Use of a small sand blasting machine to clean air conditioning condensers was demonstrated recently on a southern railroad. The machine was connected to the shop air supply and was filled with a fine grade of sand. The machine is shown in one of the illustrations and the method of cleaning condensers in the other. The accumulation of dirt in the tubes wedged between the fins was removed easily.

Observers expressed concern about



erosion of the tubes by the sand and a sample section of condenser tubing was subjected to the blast for four minutes at a distance of four or five inches. The wall thickness of the tube was .065 in. and micrometer measurements showed that the test had reduced the wall thickness .010 in. to .055 in. Since the nozzle is held much farther away for the cleaning operation and the time for cleaning any one spot on the condenser is only a matter of seconds, it would appear that erosion due to such cleaning is negligible.

The machines, a new product, are designed for all kinds of sand cleaning and sand blasting. They are manufactured by Robert Anderson Machine Company, 8 Newington drive, Flatboro, Pa. They are made in three sizes to hold, respectively, 90, 150 and 220 lb. of sand •



Versatile Protective Spectacles

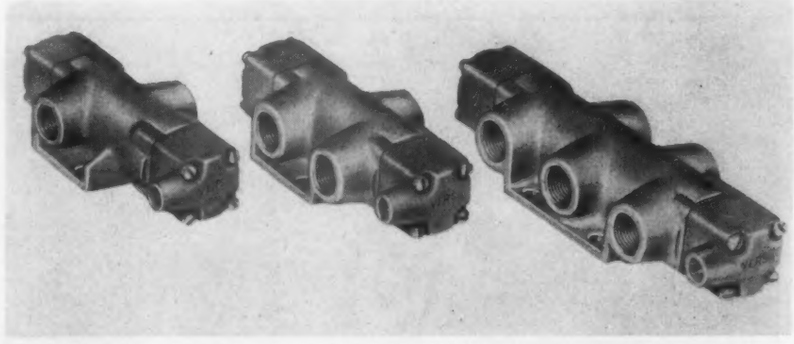
All features of the model 80 Split-Joint spectacle, recent addition to the "Eye Savers" line of the Watchemoket Optical Company, have been engineered to reduce cost by enhancing versatility. Double bridge design more than doubles the strength of the Split-Joint frame, while the one-size bridge is said to fit 90 per cent of all faces. Because the bridge does fit the vast majority of faces, and the plastic temples adjust to any desired length, the Split-Joint spectacle does away with the need for stocking a wide range of frame sizes.

Lens replacement is quick and easy, with no need for recourse to optical repair stations or the special heaters that often cause stretched or warped frames. All parts are standard and can be replaced at low cost. Full data and samples are obtainable from J. G. Kuester, sales manager, Watchemoket Optical Company, 232 West Exchange street, Department N83, Providence 3, R.I. •

"Giant-Size" Steam Cleaner

A new "giant-size" steam cleaner, with increased capacity for heavy-duty cleaning, is now available from Quick Charge, Inc., Oklahoma City, Okla. This new unit is large enough to operate two steam guns and will deliver 200 gal. of combined saturated steam and cleaning detergent per hour. A force of 130 lb. pressure drives the cleaning spray. Full steam is generated from cold water in two minutes.

Safe and simple operation is assured by the fact that two electrical switches are the only controls. This new model, the QSA, is available either as a stationary or portable unit. •

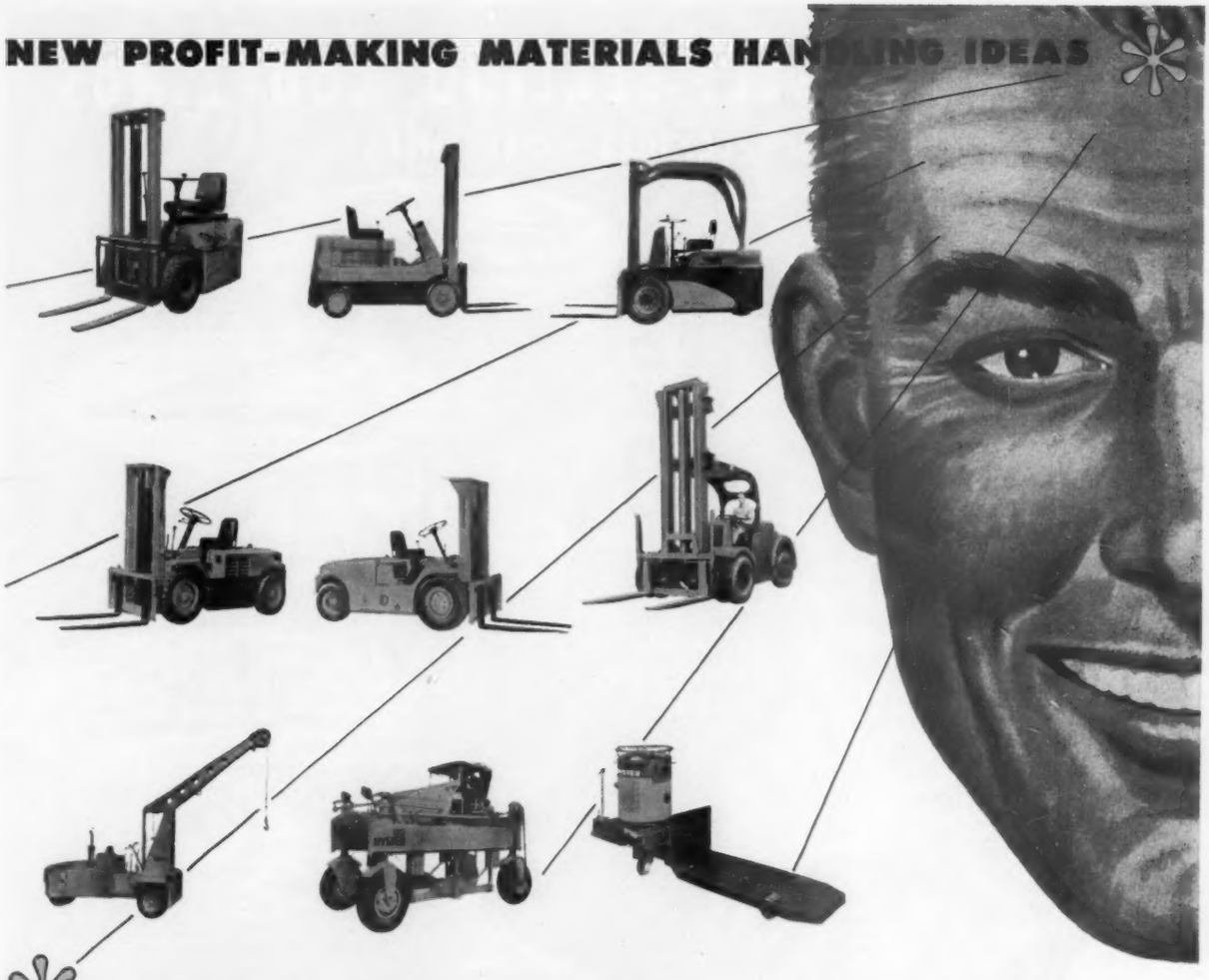


New Line of Valves

A series of larger capacity basic valves, $\frac{3}{8}$ and $\frac{1}{2}$ NPT sizes, has been added as a companion line to the series of $\frac{1}{8}$ and $\frac{1}{4}$ NPT size pneumatic and hydraulic valves manufactured by the Versa Products Company. Available in two-, three-, and four-way types, the new sizes utilize the same actuating devices used in the smaller Versa valves. All features of earlier models are found in the larger valves.

Internal parts are interchangeable among the three valve types and all Versa valves can be disassembled without disturbing pipe connections. An illustrated bulletin, No. 13-1, is available from the manufacturer at 249 Scoles street, Brooklyn, N.Y. •

NEW PROFIT-MAKING MATERIALS HANDLING IDEAS



from HYSTER one of the oldest names in materials handling

Wherever materials are moved—you'll find Hyster on the job...reducing handling costs by as much as 75%!

Progressive industry leaders everywhere depend upon Hyster Dealers for the NEW profit-building IDEAS *in their own particular industry.* Because of their everyday contact with *all* industries, Hyster Dealers are in an advantageous position to originate or pass on these ideas...ideas that so *often* have changed profit-eating into *profit-making* situations ...ideas than can help you to *spot* and *stop* profit leaks in *your* business!

Hyster — the most complete line of industrial trucks on the market — is brought to you by one of the world's most efficient dealer organizations. Over 300 Hyster Dealers all over the world will be glad to offer you the recommended materials handling practices in *your* industry — plus rentals, parts and field service. They also offer recommendations on the use of over 100 attachments which enable your Hyster Lift Truck to handle efficiently almost *any type of load* — whether it be in the form of bales, bags, bricks, bottles, bundles, boxes, or barrels! Take your first step to higher profits today by calling *your* Hyster Dealer... *or write for Catalog 1258 on Hyster Lift Trucks and Catalog 1266 on Hyster Attachments to:*

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2932 N. E. Clackamas St.....Portland 8, Oregon
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THERE'S PROFIT IN HYSTER POWER

Be Sure to Call HYSTER Before You Buy ANY Lift Truck!

HYSTER

HYSTER COMPANY— Four Factories: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

AEROQUIP SELF-SEALING COUPLINGS

AND FLEXIBLE HOSE LINES

Speed Maintenance

WHEREVER FLUID-CARRYING LINES
MUST BE DISCONNECTED AND RECONNECTED

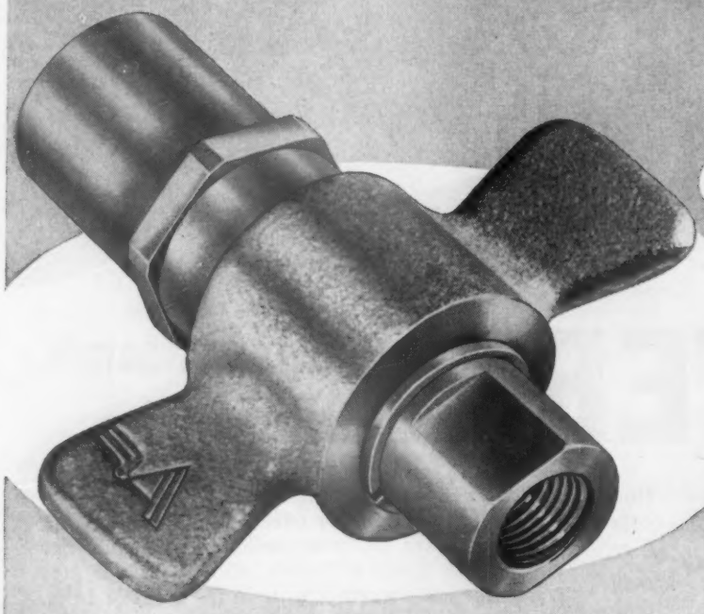
BUSES AND TRUCKS

RAILROADS

OIL FIELD DRILLING RIGS

MACHINE TOOLS

MATERIALS HANDLING TRUCKS



Speed maintenance, *speed* repair operations and *speed* interchanging of accessories joined by fluid-carrying lines with Aeroquip Self-Sealing Couplings. Lines may be separated in a few seconds without loss of fluid. No air enters the system upon reconnection. There is no need to drain or prime the fluid system. One Self-Sealing Coupling takes the place of two shut-off valves.

Aeroquip

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"Why Don't People Ride Trains?"

Back on St. Valentine's Day an editorial entitled "The Advancing Rails, the Invisible Passenger" appeared in this space, appraising a review of rail transportation issued by the Association of American Railroads and taking the association to task for omitting any sympathetic mention whatever of the *passenger*. It is good to see the editorial, its barbs still intact, reprinted in the June issue of *Railway Progress*, a monthly publication issued by the Federation for Railway Progress. It is good to see it there because this, obviously, is one railway organization that welcomes criticism of poor service and equipment and believes that it can be turned to useful ends.

Even more encouraging, however, is the appearance in the same issue of *Railway Progress* of a condensation of an address delivered by ICC Commissioner A. F. Arpaia before the Seventh Rail Transportation Institute of American University, Washington. The address is entitled "Why Don't People Ride Trains?" and in it Mr. Arpaia jumps up and down on the railroads with both feet.

The passenger, he says, has been "overlooked." Hence, he says, "we should concentrate some attention on him, not as a tally or a cold statistic but as a human being with feelings, emotions and reactions like our own. We should consider him as a customer . . . [but] isn't a passenger handled pretty much in the same fashion today as he was in the day of the wooden coach and the pot-bellied stove, as far as service to the individual is concerned?" Mr. Arpaia's answer is, generally, "Yes."

Among existing irritants he lists "the inadequacy of porter service, and its undependability"; the "general indifference and lack of solicitude" for the passenger after he has boarded the train; "the inconvenience of obtaining meals"; "drab, dark and gloomy stations" that are "as inviting as a mausoleum" and more often than not located far from the public they are attempting to serve. Mr. Arpaia concedes that some railroads have attacked one or another of these shortcomings (a recent letter to the Forum from Taliaferro Boatwright, the Seaboard Air Line Railway's assistant general passenger agent, citing a number of improvements initiated on the Seaboard, offers evidence of that) but, he adds, "there has been no over-all, consistent and integrated attempt to meet changed social and economic conditions which have affected transportation, as everything else, in the past quarter century." Sporadic improvement achieves little, he observes, since "be it good or bad to start with, the prospective passenger is thinking in terms of the *whole* trip. If it is unattractive to him in any segment, he will turn to some alternative form of travel."

That is, of course, precisely what the passenger has been doing.

All hope has not been lost, however, as long as a railroad organization is accepting and digesting criticism tossed its way. If the Federation for Railway Progress and other advocates of better rail transportation keep plugging doggedly away, the milennium may yet heave into view, one of these days, towed by a shining Diesel engine into a gleaming station, teeming with smiling customers.

—Richmond News Leader, June 18, 1953

If passengers are more than a statistic to you, join the 12,000 members now promoting progress by supporting the Federation for Railway Progress

FEDERATION FOR RAILWAY PROGRESS

RAILWAY PROGRESS BUILDING • 1430 K ST., N.W. • WASHINGTON 5, D.C.

A NEW RAILROAD !

QUEBEC NORTH SHORE and LABRADOR RY.

IRON ORE FROM THE RUGGED NORTH COUNTRY
TO THE ST. LAWRENCE . . . 360 MILES

CONGRATULATIONS

This new operation will attract wide interest of many other railroads through its use of highly engineered and proven devices on rolling stock.

WITH THE OVER-ALL PROJECT DIRECTED FOR PROGRESS — marked performance is assured — as based upon utility and economy.

. . . In this, the important function of **DRAW-GEAR ASSEMBLIES** for the cars and diesels will be enhanced by:–

"F" Interlocking Couplers, Yokes and Attachments specified throughout. Also types MF-275 (Multi-Pad) and M-380 Rubber Cushioned Draft Gears on portion of the cars and most of the diesels, respectively. A-7383

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GENERAL OFFICES
CLEVELAND 6, OHIO

NATIONAL
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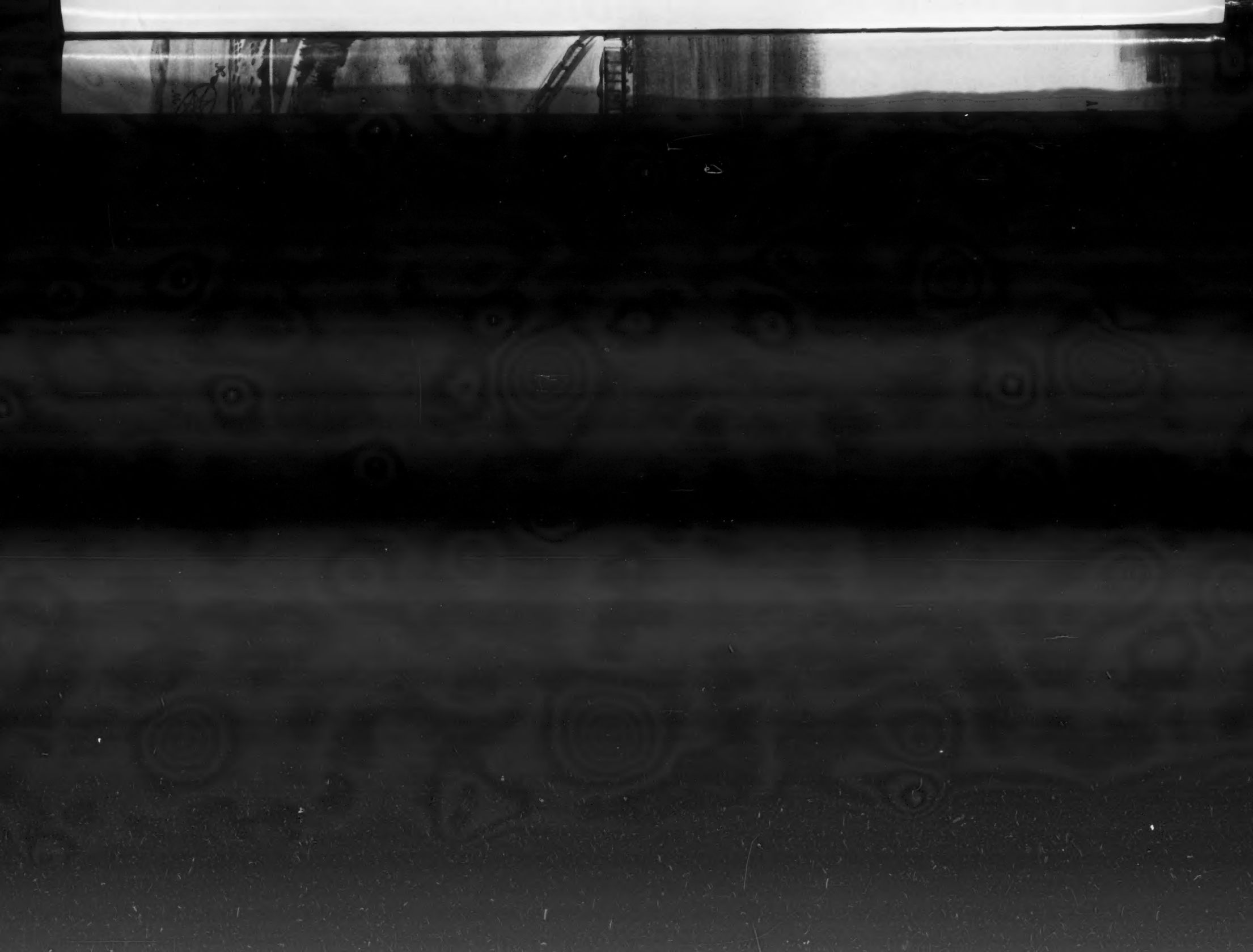
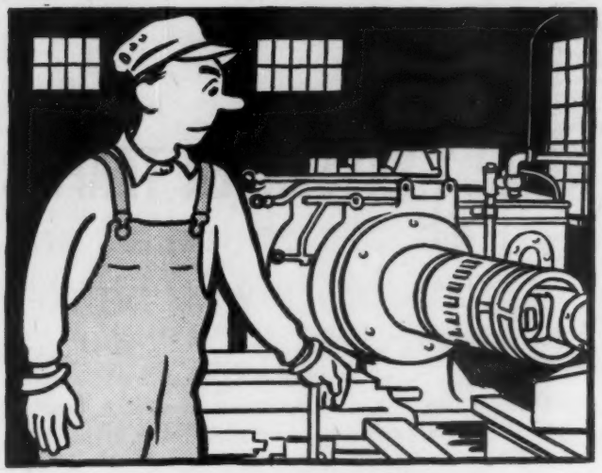
WHERE DEVELOPMENTS WILL CONTINUE FOR BENEFIT TO ADVANCED RAILROADING





A young railroad apprentice
said "Gee!
There's much to this job
I can see
I keep by my side
Railway Age as my guide
To the knowledge I need
desperately"

Railroad apprentice or president . . . there is always something new under the railroad sun which may have a direct bearing on your job.

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Benchmarks and Yardsticks

THERE IS A LOT of complaining going on—especially in academic and literary circles—about the alleged "red-baiting" or "witch-burning" activities of some congressional committees. These investigations have been given the generic label of "McCarthyism," which is supposed to be highly reprehensible.

It isn't the business of an industrial journalist, such as your reporter, to be an expert on the niceties of congressional procedure. From where we sit, however, it is perfectly evident that, however energetic congressional investigations may have become, they have not yet matched the extent of the subversive activities they are trying to uncover.

In other words, if Senator McCarthy and his confreres are engaged in burning witches, they haven't burned a very high ratio of the total number of witches in circulation; and we have heard of no instance of their having burned as a witch a victim who was later proved to be innocent. As a matter of fact, the investigators don't burn the witches—all they do is expose them.

The fact is that socialism and Marxism have widely permeated our whole national fabric. We find big city newspapers and big businessmen who support such ventures as the T.V.A. and the St. Lawrence Seaway. The latter project, in fact, has wide support within the Republican party itself. To do a thorough job of exposing all the various shades of economic and political subversion prevalent in this country would involve a large percentage of the entire population.

Maybe some of our alleged "liberals" in the academic, literary and clerical professions have been handled a little more roughly by the congressional investigators than the proprieties would call for. We've never heard of a well-substantiated case of such rough handling, but, even if there may have been one or two, just how much investigating can be done if the investigators have to take care not even to *question* anybody who might turn out to be innocent?

When there is a worldwide movement afoot—as there undoubtedly is—to undermine the freedom of the American people, what honest friend of freedom is going to do all his complaining about the rights and privileges of the plotters, and never have a kind word to say about the police force which is trying to track down the malefactors?

Probably Senator McCarthy and his colleagues could make some use of constructive criticism of their methods (as who couldn't?), but we'd venture the opinion that the only people who've got a right to offer such criticism are those who plainly show their zeal for the constructive purpose the investigators are clearly trying to serve.

J. G. L.

SIGNAL CONTROL FOR "STOP WATCH" PASSENGER TRAFFIC

Typical construction of Okonite-Okoprene cable used on the interlocking control panel shown above.

Seconds are precious in the close headways maintained on this complex metropolitan transportation system. Failure of signal control is guarded against by the installation of top quality interlocking control equipment wired with Okonite-Okoprene signal and control cables.

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75th ANNIVERSARY

The Railroads and the Electric Power Industry

The Edison Electric Institute issues a booklet of significant statistics regarding the electric power industry—somewhat similar to the "Year Book of Railroad Information" which is distributed by the Eastern Railroad Presidents' Conference Committee on Public Relations. In the current edition of this electric industry pamphlet are set forth most of the significant statistics about the growth of this industry. In 1941 the production of electric energy in the United States (omitting production of power by users themselves, i.e., not sold) totaled 165 billion kilowatt-hours. In 1951 production had risen to 371 billion kilowatt-hours, or more than double. Sales of electric power are less than actual production—because of losses in transmission, and consumption by the power industry itself. Such sales were 140 billion kwh. in 1941 and 318 billion kwh. in 1951, an increase of 127 per cent.

In the railroad industry, "sales" of freight service (revenue ton-miles) totaled 475 billion in 1941 and 647 billion in 1951, an increase of 36 per cent.

Points of Similarity

There is not, of course, any strict parallel between the electric industry and the railroads, which would suggest that the rate of growth of the two industries should be identical. There are some points of similarity between them, however. Both industries are regulated as to the rates they may charge. Both are faced with the competition of private suppliers ("isolated plants" in the case of the electric industry, and private and contract carriers in the case of the railroads). Both are confronted by government competition—such enterprises as T.V.A. by the electric utilities and publicly provided highways, waterways and airways by the railroads. Both industries have a heavy capital investment in relation to annual sales. It takes four years' business to "turn over" the total investment in electric power, three years for the railroads, and less than a year in most other big industries (e.g., only 6½ months in the automotive industry).

The electric industry's wage problem is much less dominant than that of the railroads. For example, out of total revenues of slightly more than $10 billion in 1951, the railroads paid out more than 50 per cent in wages. Out of revenues of about half as much—$5 billion—in 1951, the electric industry's wage bill was only a little more than $1 billion, or about 20 per cent of gross revenues as compared with more than 50 per cent in the case of the railroads. In a period of inflationary trends in wages, an industry with large employment in relation to its volume of business is inevitably in a less favorable position than other industries with a proportionately lower employment ratio. The electric industry in 1951 had less than 300,000 employees, compared to an average of more than four times that number on the railroads.

Considering the wage factor alone, it is not surprising that charges for railroad service had to be higher in 1951 than they were in 1941—the increase being from 0.935 cent per ton-mile to 1.336 cents, or 43 per cent. In the electric utility industry the average charge per kwh. was 3.73 cents in 1941 and 2.81 cents in 1951, a decrease of 25 per cent.

The electric industry's pamphlet does not provide figures which are strictly comparable to those which the Association of American Railroads publishes showing capital expenditures. In the year 1951 the gross capital expenditures of the railroads (i.e., replacements as well as increased installations) totaled $1.4 billion. In the same year the net increase in the electric industry's outstanding securities was $1.5 billion, and the net increase in book value of the industry's plant was approximately $2 billion. The electric industry earned $1.123 billion for its security owners on a gross of $5 billion in 1951 and the railroads earned $943 million after taxes on a gross of over $10 billion.

There have been great technological improvements in the electric industry, but the railroads have witnessed similar technological progress. Transportation, like electric power, is a service for which there is great elasticity of demend. That is, both electric power and transportation can be substituted for other industrial processes, if power or transportation appear to offer greater economies than these other processes.

Different Pricing Policies

The electric industry and the railroads have followed considerably different policies in pricing their product. At the outset, both industries classified their services—exacting higher rates for those services with more value to the purchaser

than those services with less value. For example, the electric companies formerly made a practice of charging more for electric light than for power used for other purposes—in the same way that railway freight rates are higher on commodities of higher value than on those of less value. More recently, however, the utilities have concentrated their attention more on securing increased intensity of use of existing plant, and have devoted less and less attention to "charging what the traffic will bear" on services of particularly high value to the consumer.

All in all, it seems not unlikely that the electric industry's regulation and its pricing policies—and especially its successful efforts to expand markets in order to get more intensive use of existing facilities—would repay careful study by railroad people. The electric utilities are regulated and they face competition by government and by private suppliers—just as the railroads do. In spite of these handicaps, the power industry is expanding rapidly and seems to have ready access to the funds with which to do so. There must be some reasons, aside from those of technology alone, which account for its remarkable success in the face of handicaps which—at least superficially—appear to parallel rather closely those which confront the railroads.

Ralph Damon on Transport Developments

President Ralph Damon of Trans World Airlines made a speech at Santa Barbara on June 30 in which he reminded his audience that "five years ago I said the day would come when there would be no long-haul passenger trains in America," and he saw "no reason to change that view." He went on to say:

"This does *not* mean that there is no place in the future for the railroads. The railroads have a very important place in our transportation future. It is a place that they are now occupying with profit to themselves and great value to the nation. That is the carload freight business, where the bulk of railroad revenues—and all railroad profits—now lie. This business will remain with the railroads. Nothing by air will approach the carload ton-mile rate of the railroads. . . .

"This does not mean that the airlines are neglecting the possibilities of air freight. The freight end of the business has a greater growth potential, in my opinion, than has the passenger end. The day may come when less-than-carload freight will be the number-one money-maker for the airlines instead of passenger traffic. We intend to develop air freight to the fullest extent, and we confidently believe that air shipment of less-than-carload lots has an enormous future. . . .

"In the past 20 years the railroads have suffered from an excess of regulation, and particularly from a constant harassment of rate investigations with all the attendant troubles of procrastination, inflexibility, and inability to adjust to changing circumstances. In many ways the regulation of the much younger airline industry is even more inflexible. For upon its creation in 1938, the Civil Aeronautics Board promptly patterned many of its regulations after those of the I.C.C. I believe that, for the continued health of the railroads, the I.C.C. should give up procrastination and quibbling and permit the energetic railroad managements more of a free hand. I believe even more strongly that the airlines, which are a young growth industry as compared to the more stabilized railroads, should be given that same freedom to develop and expand."

This paper believes that Mr. Damon is unduly pessimistic about the future of long-haul railroad passenger traffic, but we'll not quarrel with him here and now on that question. His attitude toward regulation, at least in principle, is sound—that is, that the burden of proof should rest with the regulators: there should be no single item retained in regulation beyond the point where its usefulness is obvious; and there should be no item added to regulation unless its advantages will obviously outweigh its disadvantages.

Transportation in this country is in a period of rapid change. It is in the national interest that regulation should facilitate, rather than hinder, such change—to the extent that it is economic. It does not, for instance, help the newer forms of transportation—while it vastly handicaps the railroads—when regulation forces the railroads to continue to provide varieties of retail transportation service at a loss, when other agencies can do the job more conveniently and economically.

The significant aspect of Mr. Damon's speech does not lie in his specific opinions so much as in his approach—which is toward the transportation situation as a whole and not to the airlines' viewpoint alone. All of the agencies of transportation have their place and, in the long run, both the transportation businesses themselves and their customers will be better off if regulation encourages the division of traffic on a basis of comparative economy. It is a constructive approach for the spokesman of any agency of transportation when he interprets his situation in terms of the transportation function as a whole—and that approach is still sound, whether the spokesman happens to get his "specifics" 100 per cent correct or not.

CONSTRUCTION WORK must proceed through all sorts of inclement weather as the new retarder-classification yard at Bensenville, Ill., is scheduled for operation by the end of July of this year. This view depicts the water and mud encountered after a 2.75-in. downpour of the night before.

At this stage of construction, the grade for the gravity switching has been completed and tracks and retarders have been placed on it. The switch foreman's office (left background) at the crest is about completed. General yard office (right background) is existing structure.

FOR THE CMSTP&P . . .

Another Modern Freight Yard

New retarder-classification facility will . . .

- **Permit better service to shippers**
- **Save an average of 8 hr. per car handled**
- **Effect substantial per diem savings**
- **Shorten close-up time for departing trains**
- **Permit establishing more through-block trains**
- **Cut down on damage claims from shippers**
- **Speed deliveries to connecting railroads**

Impressed by the outstanding performance of its Air Line yard at Milwaukee, which was revamped last year from a flat-switching yard into a retarder-classification facility,* the Chicago, Milwaukee, St. Paul & Pacific has started work on conversion of its flat-switching yard at Bensenville, Ill., into a modern retarder-classification yard.

For shippers, the project, when completed, will allow more time for loading; assure more careful handling of shipments; and result in speedier deliveries. For the railroad, it will effect substantial savings in per diem charges and damage claims; permit a larger number of direct car classifications; and eliminate reswitching at this and other terminals.

This project is divided into four stages, of which Stages 1 and 2 have been authorized for completion this year at an expenditure of $3 million. These two stages will provide 47 classification tracks. Later on, when Stage 3 is authorized and completed, a total of 70 classification tracks will be provided and the facility will be operated as a westbound classification yard of 33 tracks and an eastbound and southbound classification and departure yard of 37 tracks. Stage 4, if it is needed, will add a second gravity-switching lead. The total cost of the first three stages is estimated at $5.5 million.

Bensenville yard, which is located about 16 miles

*See "Milwaukee Modernizes Air Line Yard" in the June 30, 1952 issue of *Railway Age*.

THE SWITCHING LEAD (left photo) is carried over the crest of the grade on a three-span bridge to provide a road underpass for access to the existing general yard office and locker building. The building under construction here is the switch foreman's office, from which car movements through power-operated switches will be directed by a switch-control machine. Tower "A" (right photo) is the building from which retarders will be controlled by an operator in the upper level. The lower level will house a compressor room, boiler room, maintainer's shop, and toilet. Retarders are of the speed-control type, which reduce speed of a car to a predetermined rate.

west of Chicago Union Station, is the Milwaukee's eastern freight terminal at which all the railroad's freight traffic routed into or through Chicago is switched. Inbound and outbound city business has been handled at the road's Galewood yard, which lies about seven miles east of Bensenville, and which is also a flat-switched facility. With completion of the present modernization project at Bensenville, work now being handled at Galewood will be transferred to Bensenville, resulting in a substantial speed-up of service.

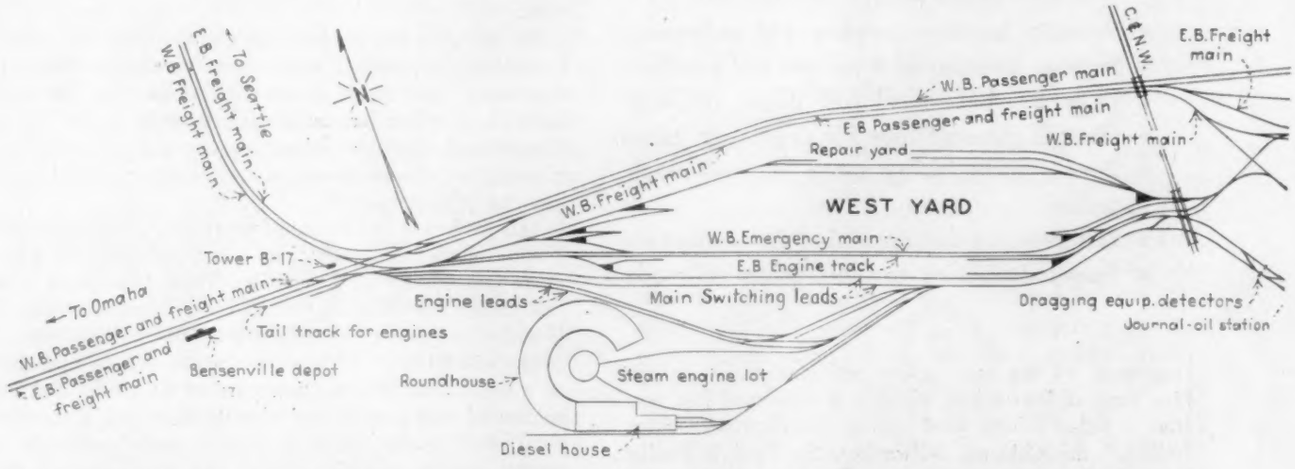
Years ago, Bensenville yard consisted of two hump-rider yards, but operations did not prove economical. In 1945, the road converted the north yard into a flat-switching facility, and, in 1946, did the same thing to the south yard. However, the major objection to this method of operation was that there was not sufficient switching-lead capacity to keep abreast of business during peak traffic hours of the day. After some study, it was decided to change this terminal into a modern retarder-classification yard, which not only will provide the necessary lead capacity but also will result in important benefits both to shippers and the railroad.

The lack of sufficient lead capacity in the existing facility limited the number of cars that could be handled in each cut at one time, thus requiring more switch-engine movements between receiving and classification yards. It also caused conflicting movements of switching crews, with temporary stoppages of work until one had cleared the other. Transfer crews were also delayed and, in addition, it was necessary that further switching of transfer cars be carried out by the Indiana Harbor Belt (with which the largest amount of transfer traffic is done) at its Nor Paul yard.

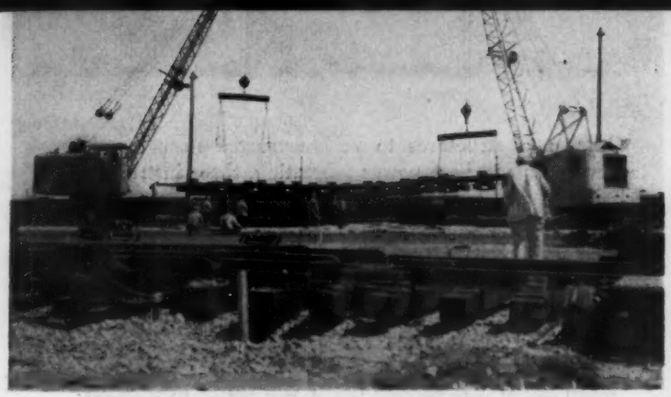
The modernized Bensenville yard will eliminate conflicting switch movements and also will have three classification tracks for cars going to the IHB, so these cars can be transferred in three classification blocks—Blue Island yard, Gibson yard, and "shorts" ("shorts" being everything north of Argo, Ill.). In addition to speeding up the IHB operations, the modernized yard will expedite classification of cars destined to the Pennsylvania, the Baltimore & Ohio, and their connections, because the new yard will take over this classification work, which is now carried out at the Milwaukee's flat-switched Western Avenue yard.

Will Solve Operating Problems

One of the operating problems at this terminal has been the handling of cars containing meats and perishables. For the preference handling of these cars in the past, it was the practice to place them at the head ends of



SKETCH showing how the CMStP&P's Bensenville 70-track retarder-classification yard will appear after the four work stages have been completed. The present goal for completion this year is Stages 1 and 2, which will provide 47 classification tracks, of which 37 will be used for eastbound and southbound traffic and 10 for westbound. They



THE 12 RETARDERS (left photo) required for Stages 1 and 2 were preassembled on flat cars and set in place by means of a Koehring 25-ton crawler crane and an American 25-ton locomotive crane. Three of the retarders were preassembled as complete units and the others in half units. Special precautions were taken to prevent any permanent bending of the running rails that were preassembled with the retarder mechanisms. Nine new tracks (right photo) were constructed at the south side of the eastbound classification yard. They are here shown being given a raise on ballast, as one of the many steps involved in the overall project.

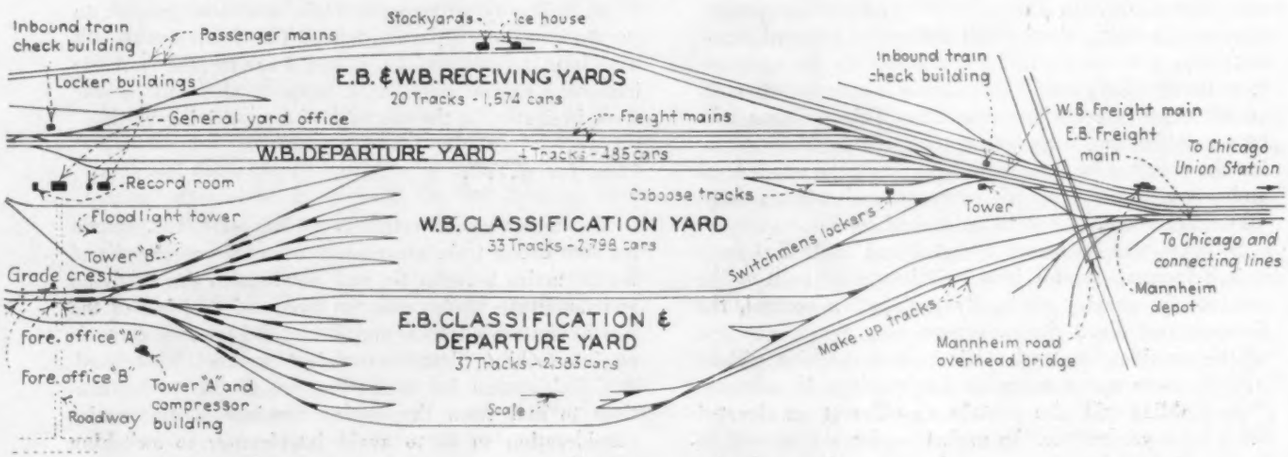
incoming trains so that, on arrival in the receiving yard, they could be switched out immediately and taken to their destinations. This practice has worked out very well, the only difficulty being that, while these cars were being switched out, conflicting switch movements were set up that temporarily halted other switching. While permitting this method of preference operation, the new yard, by addition of a short run-around switching lead, will prevent interference with westbound trains entering the new receiving yard.

Other anticipated operating advantages include the speeding up of industrial business so that, in some instances, cars will depart a day earlier than could be expected under existing conditions. Faster switching of cars at the modernized yard also will permit cars to depart on earlier trains, with a shorter train close-up time. Also, the large increase in number of classification tracks will permit establishment of more through-block trains out of Bensenville and thus eliminate rehandling of cars at yards at Milwaukee or Savanna, Ill.

Another operating improvement will involve the handling of loads destined to the road's Southeastern (Terre Haute) division. With the existing terminal, the availability of only two tracks for classification of southbound business made it necessary to reswitch trains for various junctions south of Faithorn, Ill. (just south of Chicago). The new yard arrangement will provide nine classification tracks for this traffic, permitting trains up to 120 cars in length to be made up, with shorter close-up time, and with cars in their proper sequence for setting out at station points along this line.

The freight terminal at Bensenville consists essentially of five yards, a car-repair facility, and an engine terminal —all lying south of the road's double-track main line to Omaha. One yard, known as the West yard, consists of 30 tracks and is used mostly for storage purposes. Tracks of this yard funnel down at the east end (see accompanying diagram) into five lead tracks to pass under a bridge, which carries tracks of the C&NW transversely across the yard; then they fan out again to serve the four other yards lying east of the bridge.

These four existing yards are parallel with each other and, from north to south, include a westbound classification and departure yard, consisting of 21 tracks holding from 53 to 114 cars each with an engine and caboose, and having a total capacity of about 1,677 cars; a westbound receiving yard, consisting of eight tracks holding from 77 to 108 cars each and having a total capacity of about 760 cars; an eastbound receiving yard, consisting of 10 tracks holding from 84 to 102 cars and having a total capacity of about 901 cars; and an eastbound classification and departure yard, consisting of 33 tracks



will be served by one master, three intermediate, and eight final retarders. Completion of Stage 3 will provide the 70 classification tracks shown in the sketch, and they will be served by one master, four intermediate and 11 final retarders. Work of Stage 4, to provide an additional switching lead, will not be done unless traffic demands it.

A HOUGH TD-9 front-end loader loads excess material into one of the three tracks it keeps busy.

holding from 41 to 113 cars and having a total capacity of about 2,309 cars. These four yards afford a total car capacity of about 5,647 cars.

Work to be done this year under Stages 1 and 2 will materially improve classification operations for eastbound and southbound traffic and also will raise the performance of westbound operations. Present plans call for: (1) Establishment of gravity grade between the west end of the existing eastbound classification yard and the bridge carrying the North Western's tracks; (2) construction of new tracks over the new crest and through the retarders, and utilization of two of the existing tracks in West yard as long switching leads, each to hold about 116 cars with switcher, on which switching movements will be controlled by signals; (3) revision of grades of the existing eastbound classification tracks to one of 0.15 per cent descending easterly; and (4) construction of nine new tracks south of the existing eastbound classification yard and of two others within the yard to provide a total of 47 classification tracks, of which 37 will be used for eastbound and southbound traffic and 10 for westbound. The tracks will be formed into six- and seven-track groupings and will be served by one master, three intermediate and eight final retarders.

The retarders will be of the Union Switch & Signal speed-control type, whereby the speed of a car or cut of cars can be gradually reduced to a predetermined rate, such as 4, 5, 6, 7, 8½ or 10 m.p.h., while passing through the units, after which the car is released automatically. Retarders will be controlled by an operator in a tower (designated "A") under construction south of the three intermediate retarders. This building will be a combination tower and compressor building, housing the operator in an office with toilet at the upper level and a compressor room, boiler room, maintainer's shop, oil-storage room, and toilet at ground level.

Switches will be power operated and controlled by a switch foreman located in a building to be built at the crest of the gravity grade. By push-button control, the foreman can direct the movement of a car to any one of the classification tracks. His control machine will be able to store up as many as five routings in advance. This building will also contain an office at an elevated level for a yardmaster. An underpass for a road will be constructed under the crest of the gravity grade for access to an existing general yard office and a locker building which are located a short distance north.

Other new structures to be constructed near the retarder tower will be a power substation, three instrument houses for speed-control and automatic-switching apparatus, air-receiver tanks, a condenser for removing moisture from the air supply, and a small building for housing a train-check clerk.

Capacity Increased 28 Per Cent

When Stage 3 is carried out it will result in a receiving yard of 20 tracks having a total capacity of 1,574 cars for handling both eastbound and westbound trains; a westbound departure yard of four tracks having a total capacity of 485 cars; a westbound classification yard of 33 tracks having a total capacity of 2,798 cars; and a combination classification and departure yard of 37 tracks for eastbound and southbound movements, having a total capacity of 2,383 cars. Also one intermediate and three final retarders will be added for this layout. These four yards will provide a total capacity of about 7,240 cars, which represents an increase of about 28 per cent when compared with the 5,647 cars presently accommodated by the four existing yards. The completion of Stage 4 will not add to the yard's car capacity, as this work will merely result in an additional switching lead over the crest, another master retarder and a switch forman's office.

Under Stages 1 and 2, one switching signal, one trimming signal and eight repeater signals will be installed. The repeater signals will be placed at strategic points between the two switching leads. To avoid any misunderstanding as to the movements requested from either of the switching crews working on the two switching leads, the switching and the repeater signals will show two aspects—color-light for one engine and position-light for the other engine.

When Stage 3 is completed, it will add one more trimming signal and five "shove" signals. The latter will be placed on the four westbound departure yard tracks and on the adjacent classification track which will be so equipped with turnouts at its west end that it can also serve as a make-up track for a 125-car train. The purpose of the shove signals is to provide sufficient car room on these tracks for accommodating late arrivals which may be on their way to the yard. Thus, it will be possible to get those cars on departing trains. The shove signals will have four indications—12, 8, and 4 car lengths, and one indicating engine room only. Stage 3 also will include track indicators at the east end of the receiving yard.

Plan for C.T.C.

Also under consideration is a plan for C.T.C. system for controlling train movements over the passenger and freight mains between the new entrance to the receiving and departure yards, near the overhead crossing of the North Western's tracks, and Tower B-17 which controls an interlocking plant located just west of West yard. A C.T.C. system for controlling movements of locomotives to and from the engine terminal is also under consideration so as to avoid interference to switching operations.

Speeding up the time for moving cars through this terminal also means that necessary paper work must be

changed to keep pace. To this end, the road contemplates making this procedure as simple and rapid as possible by utilizing Dictaphone machines and by extending the present pneumatic-tube system.

When the Bensenville yard project is completed, an inbound train from the north or west will pass through the interlocking plant at Tower B-17. Instead of using the old freight mains through the middle of West yard as at present, an eastbound train will be routed around the north side of West yard over the combination eastbound passenger and freight main to the North West (C&NW) bridge, where a remotely controlled switch will divert it toward the new receiving yard. As the train passes the train-checking clerk's building when pulling into the receiving yard, a clerk will read the car numbers in consecutive order, reciting them into a Dictaphone recording machine. The conductor will drop off and go to the general yard office with his waybills and tie up.

Meantime, the clerk's Dictaphone record will have been sent via pneumatic tube to the general yard office for making up the switch list. The waybills will be checked for reconsignments and the switch list, showing line number, car initials and numbers, contents, weight, destination and the classification track to which each car is assigned, will be made up and copies sent via pneumatic tube to the retarder operator, engine foreman, yardmaster, and pin puller.

The usual inbound car inspection will be made in the receiving yard and the lids of journal boxes will be left open after inspection. The bad-order cars will be noted and cards applied, after which the yardmaster will be notified so the switch list can be changed accordingly and these cars diverted later to the bad-order track.

Upon receiving the proper signal, the cars will be pushed up the ascending grade toward the crest, passing over a dragging-equipment detector and through a journal-oiling station on the way. No car-inspection facilities are planned on the approach grade because one inspection is made when the train arrives in the receiving yard and another, the usual outbound car inspection, will be made in the departure yard.

As cars are switched, routes will be lined up by the switch foreman through the automatic control machine in the switch foreman's office at the crest, and the retarders will be manipulated through the control panel by the retarder operator to produce the desired leaving speeds. Cars destined to the road's Southeastern (Terre Haute) division will be directed to certain southerly tracks in the classification yard, and transfer cars will be directed to other tracks from which they can be made into trains and depart immediately to their destinations. Westbound cars will be taken from the classification tracks and moved into the departure yard.

Waybills will be sorted into pockets by track numbers as cars are classified, thus eliminating the need for making a physical check of cars on each track. Tonnage ratings of cars on each track will be figured periodically so the clerk can inform the yardmaster as to the approximate tonnage on the various tracks. Waybills for eastbound trains will be sent through a pneumatic tube to the yardmaster's office at the east end of the yard, where the locomotive will be put on and where the bills will be passed to the conductor on the caboose of the departing train.

A CATERPILLAR MOTOR GRADER was extremely useful in making finishing passes over the grades.

For westbound trains, the clerk will give the yardmaster the numbers of the head and rear cars to be removed from each classification track for making up trains in the departure yard. These cars will be pulled and placed on departure tracks, where they will undergo the usual outbound car inspection and have their brake lines recharged. The train clerk will make up the train consist and manifest, then turn the consist and waybills over to the conductors of each train as they report at the general yard office.

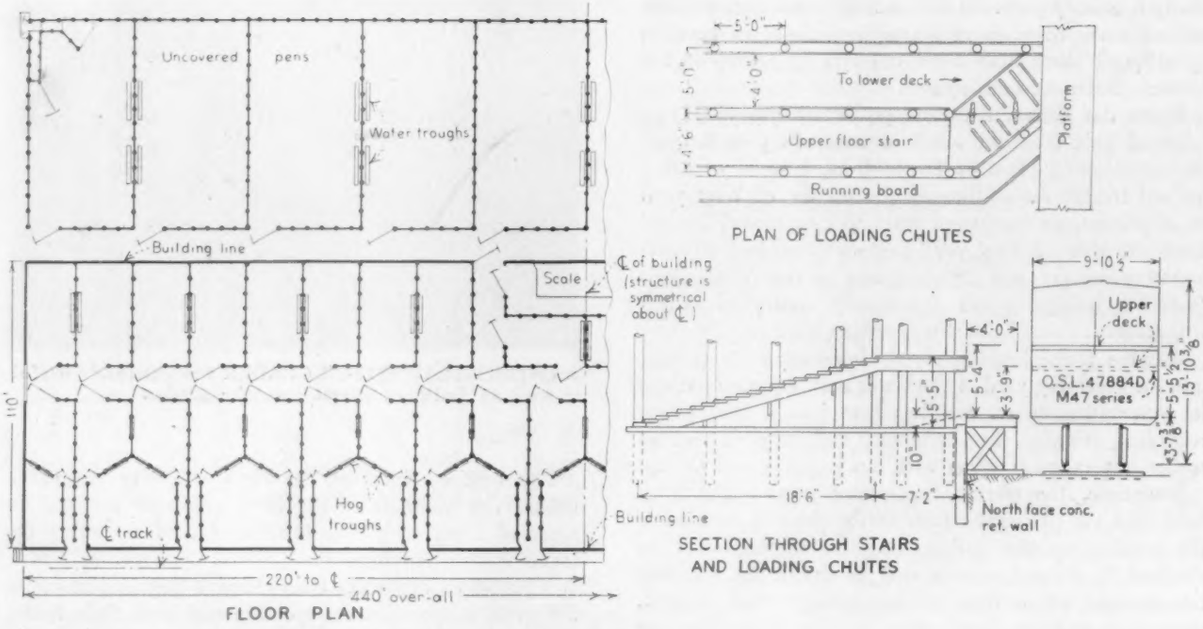
Field work on this project was started February 2, 1953, with about 50 men. When grading had progressed sufficiently, the number of trackmen was built up to 300 under the direction of about 20 foremen. By the end of May this force had been increased to approximately 350 trackmen.

About two miles of drainage lines were installed by railroad forces and approximately 40,000 cu. yd. of grading were required for carrying out work under Stages 1 and 2. Grading had been almost completed by the second week in May.

Track work is well advanced and the present schedule calls for having the six southerly track groupings placed in operation by July 17, and the other two by the end of July. The switching lead up to and over the crest and through the retarders is being constructed of 132-lb. material on crushed granite ballast, and the tracks beyond this point will be of 100-lb. material on selected gravel ballast. All frogs will be of the self-guarded manganese type, mostly No. 10's.

Because of benefits derived from its experience in pre-assembling retarders* installed by locomotive cranes at its Air Line Yard at Milwaukee, the 12 retarders being installed at Bensenville for Stage 1 and 2 were pre-assembled and set in place by cranes. Nine of the retarders were pre-assembled in two halves, each half on a flat car, then set in their respective locations by cranes. The other three were each pre-assembled as a whole on two flat cars, then set in place by two cranes. Prior to the placing of each retarder, crushed granite ballast was spread over the area and compacted by moving heavy earth-moving equipment back and forth over it. The retarders, switch machines, and control apparatuses, were furnished by the Union Switch & Signal division of Westinghouse Air Brake Company.

*See "Pre-Assembled Retarders Go In Fast" on page 82 of the June 2, 1952, issue of *Railway Age*.



"STAIR-STEP" chutes, details of which are shown in the section at the right, comprise an important feature of the new facilities.

ON THE UNION PACIFIC . . .

Livestock Dines in Style

New "feed and rest" stockyard at Cheyenne, Wyo., features. . .

- **Stair-step chutes instead of cleated ramps**
- **An all-metal "Nailable" building**
- **Adequate water troughs**
- **Concrete floors**
- **Convenient carload scales**

The Union Pacific has recently placed in service a modern stockyard and feeding station at Cheyenne, Wyo., to complement its impressive list of similar stockyards at other points on the system.

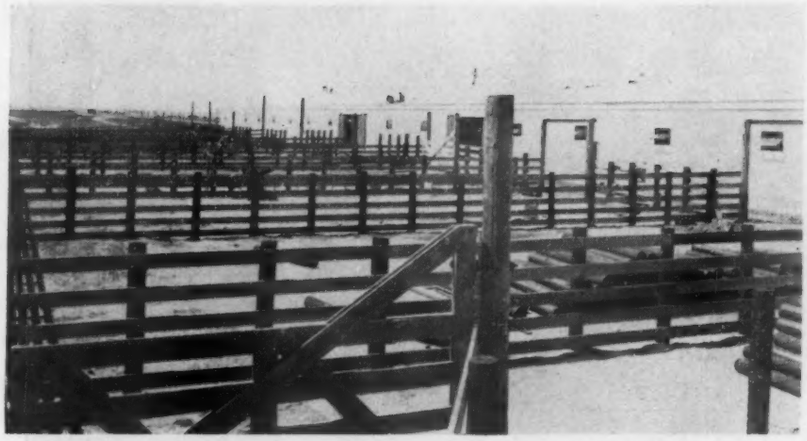
These new yards consist of two parts: (1) A group of covered stock pens adjacent to the track; (2) 10 large open pens south of the covered portion. The building is of fire resistive construction to preclude as near as possible a repetition of the disastrous fire that destroyed the old stockyard in Cheyenne last summer. It is 110 ft. wide by 400 ft. long, and is served by a track and platform extending along its north side. It has 10 double-deck rail chutes spaced for the new-type, 40-ft. 7-in. stock cars, and so arranged that hogs can be loaded into upper and lower decks at the same time.

The upper-deck chutes are constructed to load, conveniently, either the old standard-height double decks or the new-type UP Livestock Dispatch double-deck cars (dual-purpose cars which can be used either for cattle in one deck or sheep, hogs and calves in two decks).

These chutes are of a new stair-step design (see illustrations). Experience has shown that hogs, sheep and calves are more willing to move up or down a chute of this type than one with cleated ramps. This new-type chute not only speeds the loading and unloading of stock but prevents livestock damage resulting from animals being crowded against the sides of the chute. Thus, with the stepped chutes, loading stock into upper decks is almost as easy as moving it into lower decks—and that couldn't be easier, because the floors of all pens are only one foot below the platform and car floors.

Stock Fed and Watered

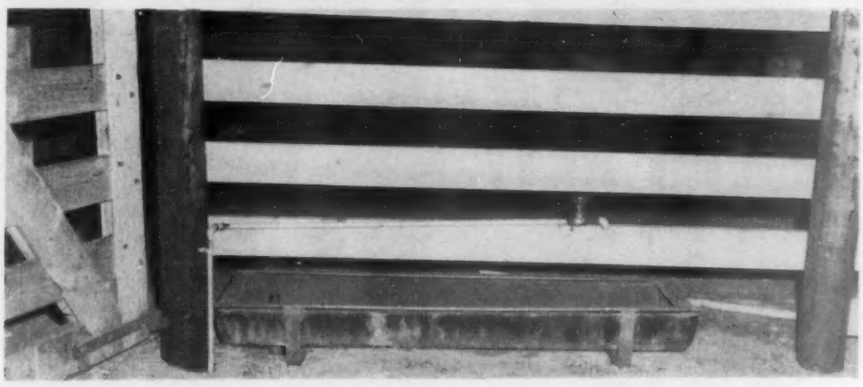
The stockyards at Cheyenne, like most other on-line yards on the UP, are not specially designed, as one would think, for the loading of stock from nearby ranges, but for "feeding in transit" as required by the 28-hr. law. This law requires that all stock in transit be unloaded for feed, water, and rest every 28 hr., or, if permission is obtained from the owner or shipper, no longer than every 36 hr. For compliance with that law, such feeding-in-transit yards must be up to date, well-designed, and capable of handling large amounts of stock in a short period of time in order to prevent avoid-



FASTER HANDLING of livestock, along with better facilities for feeding and watering, is provided by the Union Pacific's new stock pens at Cheyenne.

CHUTES of "stair-step" design speed loading and unloading and help to prevent damage to animals.

TRACK SIDE of the covered pens. Building has steel frame with "Nailable" members and is covered with corrugated galvanized sheeting.



WATERING TROUGHS are so placed that stock in every pen has access to one of them. Each trough in large pens on track side, designed for hogs exclusively, serves two pens.

able delays in movement of stock from origin to destination.

With these considerations in mind, the new pens in Cheyenne are designed to handle the same amount of stock in 20 per cent less time—or 20 per cent more stock in the same amount of time—than the old pens. Thus the new yards speed movement of stock over the railroad, despite the fact that cattle and sheep must, by law, remain off cars five hours or more and hogs must be given at least 1½ hr. off cars for water.

This also means that the westward movement of hogs, which represents the largest volume handled at Cheyenne, can meet the fast and tight operating schedule that has brought to the Union Pacific its stock-handling records. This schedule calls for the hogs being delivered from markets in the Missouri River basin to the West Coast on the fourth evening for fifth morning slaughter.

Cattle, an increasing number of which are being handled westward, may also make a fourth evening delivery either on the West Coast or in the Pacific Northwest if handled on early evening NLS (night livestock special) schedule out of Omaha.

The steel building at the new Cheyenne stock "rest" facilities covers three narrow pens at each end, and 51 other pens of various sizes arranged as shown on an (*Continued on page* 90)

SCENERY RATES HIGH with passengers on the SP's "Shasta Daylights." Their questionnaire replies indicate they also find the service, courtesy of employees, equipment and the general quality of the train above reproach.

TO "SHASTA DAYLIGHT" PASSENGERS . . .

SP Says, YOU Tell Us!

"Shasta Daylight" quiz reveals why passengers used train

As a part of its continuing endeavors to design and operate passenger trains which will attract and hold volume passenger traffic, the Southern Pacific conducts periodic questionnaire surveys on its principal trains. This technique, which is being used by an increasing number of railroads, can be used to evaluate service as it is now performed, or to predict probable passenger reactions to contemplated changes in the service.

The results of a recent SP questionnaire—conducted on the "Shasta Daylight" trains operating between Portland, Ore., and San Francisco—are indicative of the value of such research efforts. This questionnaire, in addition to recording public reaction to present service, solicited public opinion on coffee shop and dining car prices, and on a proposal to discontinue de luxe dining car service, replacing it with additional coffee shop service.

As the third such survey to be conducted on this train, replies showed no significant shift in public opinion from those received in previous years.

The SP management interprets the replies to this latest questionnaire as meaning:

- Schedules and scenery are the prime motives for travel on this run. Once a passenger has used the train, he will use it again if he gets a chance to do so.
- The train is pulling the bulk of its passengers from among established railroad patrons, and the only competitive service from which it is holding a really significant amount of patronage is air.
- The coffee shop question replies indicate a definite-

WHAT "SHASTA DAYLIGHT" PASSENGERS TOLD THE SOUTHERN PACIFIC

RESULTS OF SELECTED QUESTIONNAIRE ANSWERS

How Did You Happen to Choose the "Shasta"?	Number of Replies	Proportion
I like the "daylight" schedule	594	27%
Because the fare is low	240	11%
To see the scenery	521	24%
I have used it before and liked it	347	16%
I wanted to ride a new train	176	8%
Have used other "Daylights" and liked them	194	9%
No opinion or no answer	116	5%
		100%
If there had been no "Shasta Daylight" would you have:		
Taken another train	696	57%
Used highway bus service	109	9%
Used a private automobile	71	6%
I would not have made the trip	48	4%
Used air line service	182	15%
No opinion or no answer	111	9%
		100%
When you leave the train will you		
Require taxi service?	397	28%
Be met by someone with an auto?	453	31%
Board a connecting train?	278	19%
Stop in a hotel?	292	22%
	1420	100%

If you patronized the "Coffee Shop"		Number of Replies	Proportion
Were the prices too high?	Yes	374	
	No	308	
Were you served courteously?	Yes	786	
	No	31	
Was the service reasonably prompt?	Yes	729	
	No	65	
Was the quality of the food	Excellent?	482	
	Fair?	307	
	Poor?	16	
Was the preparation of the food	Excellent?	419	
	Fair?	249	
	Poor?	14	
If you patronized the dining car			
Were the prices reasonable?	Yes	280	
	No	163	
Were you served courteously?	Yes	473	
	No	13	
Was the service reasonably prompt?	Yes	424	
	No	22	
Was the quality of the food	Excellent?	324	
	Fair?	143	
	Poor?	10	
Was the preparation of the food	Excellent?	285	
	Fair?	120	
	Poor?	10	

(Continued on next page)

COFFEE SHOP PRICES do make a difference, passengers told the SP in its most recent passenger questionnaire-survey.

	Number of Replies	Proportion
If both restaurant cars were operated as "Coffee Shops," and no deluxe dining car service (with full linen, complete glassware and silver service, and a wider menu selection) were offered on this train we could serve more people in less time—give you quicker seating at peak meal periods. Of the following, which do you prefer?		
I prefer de luxe service at all meals	138	11%
Want it only at lunch and dinner	86	7%
Only desire it for the evening meal	223	19%
Like "Coffee Shop" service at all meals	348	29%
It makes no difference to me	210	17%
No answer	212	17%
Would you care to indicate the reason for your trip?		
This is a business trip	176	14%
It is purely a vacation or pleasure trip	500	41%
It is for the purpose of visiting someone	465	38%
This is an emergency trip (illness, etc.)	54	5%
No answer	22	2%
Sex of respondents ....Men	407	33%
Women	810	67%

ly growing resistance to meal prices. This question was purposely "loaded" toward getting patrons to indicate that prices were too high, so that the negative indication would be thoroughly reliable.

• If coffee shop service were offered in place of the "full dress" dining car, there would be definite alienation of the sensibilities of more than one-third of the train's patronage.

The effect this might have on patronage over a long period of time would be difficult to assess, but could lead to some diversion.

The questionnaire also asked the passengers to indicate the general region of the country in which they live. This information is used by the SP in planning its advertising and solicitation efforts for the coming year.

Altogether 1,528 copies of the questionnaire were distributed on the train by the passenger department, of which 1,217, or 80 per cent, were completed. At the time the questionnaires were distributed, there were a total of 1,717 passengers on the train, so that the completed questionnaires represent returns from 71 per cent of the passengers.

LIVESTOCK DINES IN STYLE

(*Continued from page 87*)

accompanying plan. Stock in every pen has access to a trough, with most pens having individual troughs. The large pens near the track side, designed to serve hogs exclusively, have two troughs, each of which serves two pens.

A weighing area in the south central portion of the building is the hub of much of the activity at the stock pens. This area has two large pens and two small ones, all serving a Fairbanks, Morse self-registering stock scale, capable of weighing a whole carload of stock at a time. This scale has a platform 10 ft. wide and 36 ft. long. Situated as it is, stock can come from any of the 10 large outside pens on the south of the building, move across the scale, and return to the outside pens or go on through the inside pens to stock cars or to any inside pen desired. Stock from any inside pen can also be driven in either direction across the scale and returned either to the pen it came from or to any other inside or any outside pen. Such a flexible arrangement permits a fluidity of movement that speeds the weighing process and protects the stock from the damage of over-crowding.

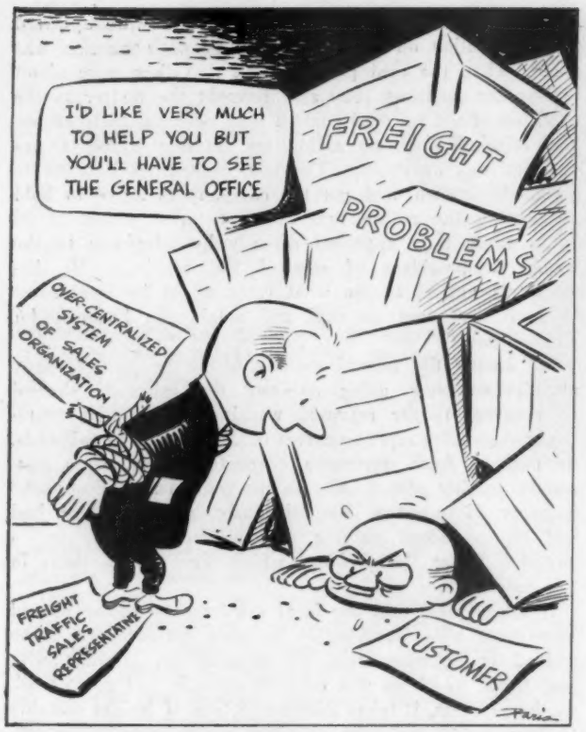
Building Is Steel

The building itself is a Stran-Steel Nailable-frame building structure. The distinctive feature of this type of framing is its "nailing groove." This groove, present in all joists and studs, is obtained by welding two or more specially formed steel parts back to back. The small space between these parts is so designed that a nail driven into the space is not only gripped by steel but is also deformed, providing a holding power that is said to be comparable to that of any other type of building material. In this manner collateral materials are attached directly to the steel framework by the ordinary hammer-and-nails method. The framing itself can be assembled by means of sheet metal screws, bolts, or nails, or by welding.

The steel framing is enclosed on roof, sides and ends with corrugated galvanized sheeting of 26-gage thickness. The floor is concrete, at an elevation about one foot below car-floor height, or about 2 ft. 9 in. above the top of rail. The roof is supported at its edges by 3⅝-in. Nailable-steel wall studs, 48 in. on center, and on four rows of Stran-Steel columns, the two outside rows of which are 14 ft. 6 in. high and the two center rows 18 ft. high. These rows of columns are spaced so as to form two 20-ft. bays parallel to the side walls, leaving a 30-ft. bay in the center. The roof over the first two bays rests on 2 5/16-in. Nailable purlins supported by two 9-in. joists on 4-ft. centers. These rest on wide-flange longitudinal beams supported by the columns. Since the columns in the first row near the track span the large hog pens, the beams, being longer, are necessarily deeper than the others which have only about half the span. The roof over the wide center bay is supported on purlins resting on framed Stran-Steel trusses 30 ft. long, spaced on 8-ft. centers.

Thus, with all portions of the building constructed of steel and concrete, a high degree of fire resistance has been obtained even though the inside pens and chutes have been made of wood.

The Cheyenne stockyards were designed and built under the general direction of W. C. Perkins, chief engineer, in cooperation with E. G. Reed, general livestock agent. Direct supervision of design and construction was carried out by J. W. Godfrey, division engineer at Cheyenne, assisted by F. R. Benedict, supervisor of bridges and buildings.


I'D LIKE VERY MUCH TO HELP YOU BUT YOU'LL HAVE TO SEE THE GENERAL OFFICE
FREIGHT
PROBLEMS
OVER-CENTRALIZED SYSTEM OF SALES ORGANIZATION
FREIGHT TRAFFIC SALES REPRESENTATIVE
CUSTOMER

GEOGRAPHICAL sales organizations give coverage . . .

BUT OFTEN FAIL to give the shipper the service he needs.

A READER SAYS . . .

What Can Railroads Sell But Service?

BIRMINGHAM, ALA.

TO THE EDITOR:

I have been interested in your constant emphasis on "service selling" and in your thesis that a transportation salesman has nothing to sell but service. The product of any transportation enterprise is service. To attempt to sell service without actually providing the service is simply undertaking to merchandise an inferior product. Your editorial "Product Specialists for the Traffic Department," which appeared last fall,* shows that the problem is apparently receiving some executive attention.

I came to the conclusion a number of years ago that sales service is a missing element in the railroad sales picture. But since that time, the thing that has had me stumped is just how a transportation salesman can go about giving better service.

Geographical Organization

Most criticism of traffic department sales efforts seems to make the mistake of trying to find out what is wrong with the individual transportation salesman. Obviously, there are some things wrong with every individual. But certainly the human beings employed by the transportation industry as salesmen have the same individual virtues and shortcomings as those employed by other industries. On the whole, most of the transportation salesmen I have come in contact with in my years of experience have been all that could be desired *as individuals.*

The question then arises as to just where the trouble lies. It is my personal observation and experience that the trouble lies in a basic misconception underlying the transportation industry's merchandising and sales organizations. Almost without exception, they are organized strictly along geographical lines. In a city like Birmingham, Ala., the organization along geographical lines extends even to the point of partitioning the city—one man to a section. Under that system, no transportation salesman is given adequate opportunity to perform successfully any function other than maintaining personal contact with the customers in his area. Important as this personal contact may be, the system is weak in that it ignores all other principles of good merchandising and selling.

The transportation industry seems to have a tendency to consider personal contact as constituting at least 90 per cent of the selling job, completely ignoring the merchandising responsibilities of management. While personal contact is important and should be adequately provided for, it simply does not take the place of rendering sales service.

In this connection I can give you several pertinent illustrations.

A number of years ago I was traffic manager for a fairly good sized concern shipping carload lots to 34 states and 10 or 12 foreign countries. Our plant was at a point served by six major railroads and a large number of truck lines. At that time, just out of curiosity, I counted 65 contact representatives of transportation agencies who were obviously assigned to call on me

* *Railway Age*, November 24, 1952, Page 40.

once a month or oftener. Yet, with one or two outstanding exceptions, not a one of them had the necessary technical training or requisite authority to *actually do* anything for me.

I can well remember a representative of one local railroad serving our plant who had been ordered to call on me twice every week, 52 weeks a year. Although he was a very amiable gentleman, after a few weeks the calls became very painful for both of us. We simply did not have anything to say to each other that often. Yet, when I had a real problem involving his railroad, which required action, I had to take a trip of several hundred miles to its general office.

Sales Service

Another example involves two large industries here in Alabama which consumed, between them, considerably more than 30,000 tons of coal per month. In one of the companies the purchasing agent was also charged with handling traffic.

These companies are located at a point served by three major railroads and quite recently a natural gas pipe line was built passing near these two plants. The natural gas company approached the two concerns with an attractive bulk rate in an effort to get them to convert from coal to natural gas. The purchasing agent-traffic manager of one of these concerns mentioned this gas company offer to the sales representatives of the three railroads who regularly called on him as soon as it was received. He told them it was obvious that if they wanted to continue to haul coal to his plant some rate adjustment would be necessary to meet competitive conditions. Although these three railroad contact men continued their regular calls on this purchasing agent and were apprised of the situation on innumerable occasions, no action was taken. When the coal people heard that they were about to lose the business, they also brought the matter to the attention of the railroad contact men covering their offices. The railroads took no action and in due course a gas contract was drawn up. The coal companies decided to act on their own, and got the company to agree to hold up signing the natural gas contract for a period of 24 hours while they appealed directly by telephone to the traffic vice-president of one of the railroads. He immediately agreed to see what rates might be established to keep the plant on coal and retain the business for his railroad.

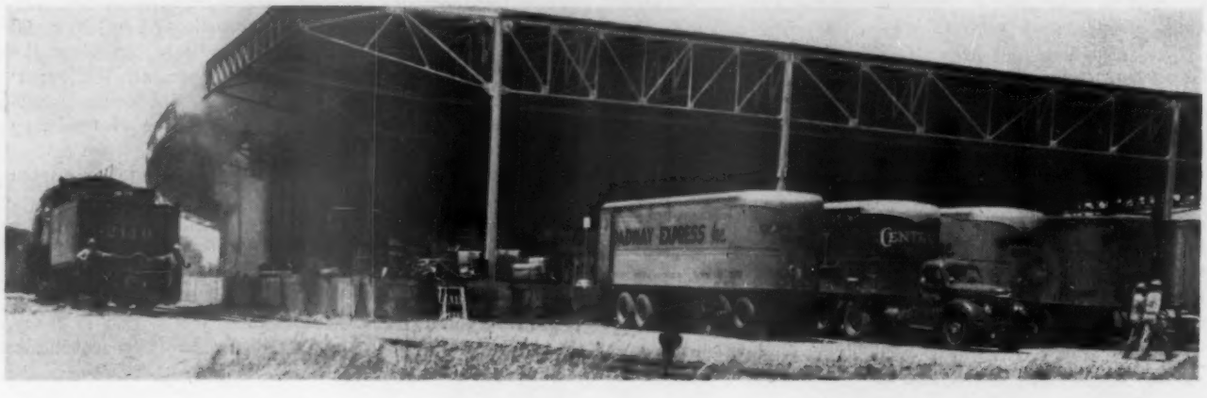
All during the several months while the gas company negotiations were going on—and the railroads showed no response to the repeated warnings given their representatives—sales representatives of the three local railroads, as well as from numerous connecting lines, were constantly making repeat calls on the purchasing agent-traffic manager in question. Yet, obviously, none of them had had the technical training or requisite authority to do anything about the problem which was staring them in the face.

It would seem that the local sales representative should have been able immediately to send for *and get* some trained traffic men from his organization familiar with coal traffic problems and rates to come in and go to work on the problem. It takes millions of tons of freight monthly to keep going the three railroads which serve these particular plants. If each railroad has to depend on its traffic vice-president taking action in every instance that arises, there simply is not time in the day for that single individual to handle enough situations to accumulate sufficient traffic to keep the railroad in business.

Effective Sales Efforts

Still more recently, one of my clients who is engaged in the creosoting-in-transit business in Georgia, had under consideration the purchase of an additional creosoting plant located in Tennessee at a local station served by railroad "A." The Tennessee plant site comes under the jurisdiction of that railroad's office at Chattanooga, which is staffed with six titled representatives. In the Georgia

"IF EVERY LARGE RAILROAD had to depend upon its traffic vice-president taking action in every problem concerning a shipper, it would soon lose more business than it could win." Many shipper problems involve specialized matters of rates, equipment, and packing which a general field man is not always well equipped to provide.



"WHILE PERSONAL CONTACT is important, it simply does not take the place of rendering sales service."

home town of the creosoting company, that same railroad maintains a traffic office with three titled representatives. Here in Birmingham its office has six.

The Tennessee plant under consideration had been practically inactive for a number of years, so if it was purchased and placed in production, it obviously would produce considerable traffic for railroad "A." A survey of the rate situation at this local station showed the rates to be considerably out of line—so much so that adjustment would be necessary if operation was to be on a competitive basis with other concerns operating in the same general territory.

As soon as the purchasing plans became known, sales representatives from railroad "A" contacted the company in Georgia and in Tennessee, indicating they were anxious to have the purchase go through, and the Tennessee plant restored to operation. Although they made numerous calls to discuss the situation, not a single representative apparently had any technical knowledge of the subject under consideration, *nor any authority to take affirmative action.*

For us to find anyone from railroad "A" with whom we could discuss the situation with any hope of having it corrected, the sales manager of the creosoting company and a representative from our office had to make an appointment with a top traffic official at railroad "A's" home office, several hundred miles distant, and go there in person. The official contacted was of no higher rank than some of those located at Birmingham and in the Georgia and Tennessee contact offices. Further, in spite of the keen interest displayed by the local representatives, the man in the home office who had the necessary technical knowledge and the authority to act, *had not heard of our problem prior to our appearance in his office.*

Even after we contacted the proper home office official and necessary arrangements were under way to correct this situation, the rate office was so shorthanded and overloaded that it took six weeks to progress a matter that should have easily been completed in two. Meanwhile, the contact traffic representatives from the three offices called on us frequently "simply to keep up contacts."

Product Specialist

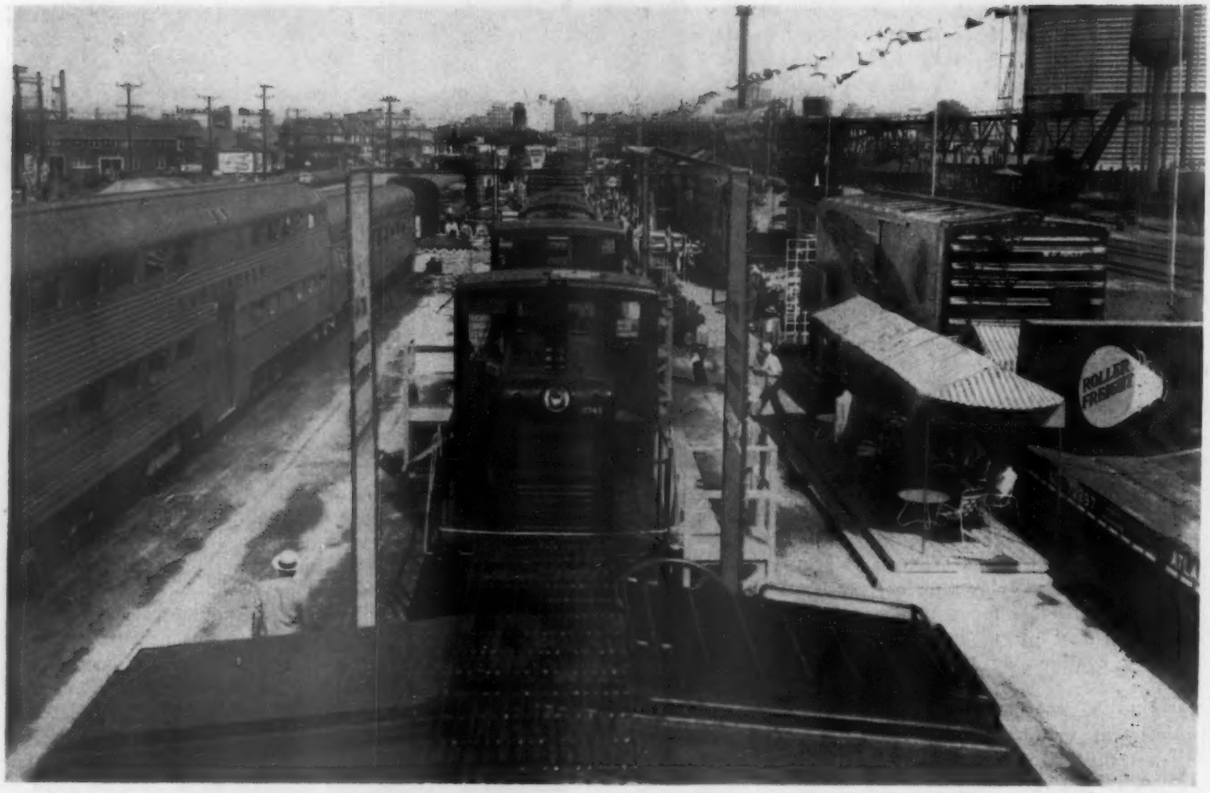
Here again it seems to me that the railroad's local sales representative should have been in a position to have a specialist dispatched to call on the shipper and commence work on solving his problem. I can assure you that such a course of action on the part of the railroad would have done far, far more to sell its transportation service to this shipper than all of the mere "contact" calls that they can ever make.

Summing the whole subject up, I think it can be said that top managements of most transportation businesses simply do not provide the type of organization which will enable their representatives to perform "service selling." There are, of course, outstanding instances in which local transportation representatives of unusual capacity and ability manage to achieve a high degree of service selling but these are definitely the exception.

Hence my particular interest in your report that one mid-western railroad has actually taken positive steps to cope with this very real—and very important—merchandising and sales problem.

A. M. RIBE
A. M. Ribe Associates,
Industrial Traffic Managers and Consultants

END OF THE STEAM ERA on the 8,000-mile Southern came at Chattanooga, Tenn., June 17 when the 6330 rolled into the yard and paused for a final portrait between a diesel locomotive and a replica of the historic "Best Friend of Charleston," operated 123 years ago by a Southern predecessor.



THIS VIEW, and the pictures on pages 96 and 97, show the track exhibit from the south end of the four-track group of cars and locomotives.

Track Exhibit Drew Large Crowds

Over three million dollars worth of shiny new cars and locomotives stirred the enthusiasm of seasoned railroaders

The Railway Supply Manufacturers' Association track exhibit at Atlantic City this year not only represented a very substantial portion of the $20 million worth of exhibits at the "Big Show" but attracted a large share of the visitors.

This year, as in 1947, the track exhibit was at Bacharach Boulevard and Ohio avenue. It occupied track space totaling about 4,200 ft. on four tracks within a single enclosure.

In this exhibit there were nine diesel-electric locomotives, the Budd RDC-4 and RDC-3 rail diesel cars, the Westinghouse Ignitron electric locomotive, four passenger cars, 34 freight cars and the A.C.F. Talgo train. Car builders whose exhibits were on the track were Budd, General American, International Car, Magor, Pressed Steel, American Car & Foundry and Pullman-Standard.

The locomotive exhibits were the showings of American Locomotive—General Electric, Baldwin-Lima-Hamilton, Fairbanks-Morse, General Motors and Westinghouse Electric. In addition to the complete units of equipment mentioned above there were a number of car and locomotive specialties included as a part of the track exhibit.

In lieu of a track exhibit, American Steel Foundries featured a run of its service laboratory test train from the Atlantic City Station twice daily over tracks of the Pennsylvania-Reading Seashore Lines.

A brief description of some of the exhibits is given in the following text; they are shown in the photographs accompanying this article.

The Talgo Train

The A.C.F.-Talgo demonstrator train, introduced to American railroads in 1949, was on display as part of the American Car & Foundry track exhibit. The train, traveling under its own power, left St. Charles, Mo., on June 8, moving to St. Louis via the Wabash, from there to Philadelphia on the Pennsylvania, and then via the Pennsylvania-Reading Seashore Lines.

The A.C.F.-Talgo demonstrator is a shorter version of two Talgo trains which have proved successful in Spain in regular service for nearly three years. It is made up

of short articulated trailer units, each supported at the rear by a single pair of wheels and at the front by the preceding unit. One reason for the A.C.F.-Talgo's low center of gravity is the transfer of the necessary service equipment from its usual under-floor location to an entirely separate equipment unit.

The other American Car & Foundry exhibit was the first "king size" tank car of 19,215 gal. capacity, built for the Canadian Pacific. This road plans to use 65 of these cars for delivery of diesel fuel to locomotive fueling points on its lines.

Alco-G.E. Motive Power

The American Locomotive-General Electric track exhibit included the new 1,600-hp. "World" locomotive designed as a standard road unit for overseas service in which clearance, track gage and axle loading requirements of railroads all over the world may be accommodated. This locomotive is powered with the Alco 1,600-hp. V-type, Model 244 diesel engine.

The General Electric part of the exhibit consisted of a 44-ton diesel-electric locomotive used in lighter switching operations involving 18 to 20 cars.

Also in the G.E. exhibit was an 80-ton switcher built for service in Cuba which is powered by the new 800-hp. in-line Alco diesel engine.

An additional G.E. exhibit was a loading resistor for shop-testing diesel electric locomotives.

Locomotive for South America

Among the exhibits of Baldwin-Lima-Hamilton on the track were a Western air dump car and two diesel-electric locomotives. The dump car is a 30 cu. yd. air-operated unit built for the Norfolk & Western. It has a capacity of 100,000 lb. and weighs 62,500 lb.

One of the two diesel locomotives was a 1,600-hp. road-switcher having a weight in working order of 358,000 lb. and a continuous tractive force of 72,900 lb. The locomotive is powered with an eight-cylinder supercharged four-cycle, diesel engine developing 1,750 hp. The locomotive is carried on two three-axle, three-motor swivel type trucks.

Also shown was a 1,500-hp. road locomotive built for the Argentine Government Railways. This unit has a maximum speed of 75 m.p.h. with a 19:76 gear ratio and a continuous tractive force of 36,250 lb. Its total working-order weight is 231,000 lb.

The Budd Exhibit

The Budd Company exhibited five passenger cars. These included one of the Pennsylvania "Senator" 74-passenger coaches, an open-section, roomette and bedroom car for the CB&Q "Kansas City Zephyr," a CB&Q 145-passenger Suburbanaire gallery car, one RDC-3 48-passenger baggage and mail car, and one RDC-4 all-baggage-and-mail car.

Five Cars with Dumping Devices

The Enterprise Railway Equipment Company exhibited five freight cars equipped with various types of door dumping devices.

An Illinois Central 50-ton general-service gondola car with 16 dump doors was equipped for exhibition purposes with both the Enterprise link device and its chain device.

An all-welded Western Pacific ballast car, built by Pullman-Standard, is the first of that type.

The Southern 70-ton ballast car, built by American Car & Foundry, also Enterprise equipped, is a riveted car and differs from the Western Pacific car in that it has eight longitudinal doors.

The Southern 70-ton hopper car built by Pullman-Standard is equipped with Enterprise Type-D special locks, operative from either side of the car. This type of car is preferred for steel-mill or export dumping operations where trestles often have catwalks on one side only.

A Southern 70-ton hopper car, which had just been completed at the Huntington, W. Va., plant of A.C.F. was also shown. This car is equipped with Enterprise standard Type-D locks which are operated from one side of the car only. The feature of this lock is its three openings: a 4-in. opening for ballasting, a 10-in. opening for unloading on a conveyor, and the full 24-in. opening for unloading from a trestle.

Evans Products Company

The "Adjustable belt" D-F loader was installed in one of the Pullman-Standard box cars.

Fairbanks, Morse & Co.

The Fairbanks-Morse track exhibit included a two-unit "Trainmaster" locomotive rated at 4,800 hp.

General Motors Corporation

The Electro-Motive Division of General Motors Corporation exhibited three diesel locomotives, one four-wheel and one six-wheel diesel power truck.

The standard 4,500-hp. Type E-8 high-speed passenger locomotive consists of two General Motors A-units, normally assigned to service on the New York Central "Twentieth Century Limited." This locomotive, in addition to stepped-up horsepower and greater traction-motor capacity, has dynamic brakes; steam generators with 100 per cent reserve capacity; and a.c. auxiliary drive system; a pressurized engineroom; more water capacity and protected fuel tank and an improved engine-cooling system.

The G.M. diesel switching locomotive exhibited is an 800-hp. unit with hydraulic drive. While a smaller 600-hp. locomotive of the same general type has been tested in light switching service the 800-hp. unit is still in the development stage and is said to represent the heaviest application of a hydraulic torque converter to any piece of mobile machinery yet built in this country.

The third diesel shown was a new General Motors Model 1,125-hp. streamliner road locomotive designed especially for export and use in general passenger, freight and transfer service in foreign countries. The locomotive may be designed for 12 to 17 long tons maximum axle loading, as required, and the provision of 9 ft. 2 in. width by 12 ft. 2 in. height will meet most foreign

THE CENTER PART of the track exhibit displayed the majority of the freight cars and the passenger units.

clearance limitations. Little change in design is required to adapt the locomotive to all track gages from one meter to 5 ft. 6 in. A feature of this locomotive is the provision of optional four- or six-wheel trucks for medium or light axle loading as required, both of these trucks being shown separately in the track exhibit.

General Steel Castings Corporation

The General Steel Castings Corporation's truck exhibit consisted of the trucks under a Pennsylvania X42 box-express car and the underframe and end posts on a GM&O pulpwood car.

A Car for Powdered Lading

General American Transportation Corporation showed an operating demonstrator of the Airslide covered hopper car which was described in the May 4 issue of *Railway Age*. This car is built in capacities of 2,000, 2,600 and 3,600 cu. ft. to cover the whole range of powdered commodities of varying densities. It utilizes the Fuller air slide consisting of a special fabric stretched over U-shaped, shallow channels into which air is introduced in varying quantities depending upon the material to be transported. As the air is forced through the fabric, the lading is aerated and fluidized causing it to flow like water to the unloading point.

Great Lakes Steel—International Railway Car

In the exhibit of the Great Lakes Steel Corporation were four cars. Soo Line and Union Pacific box cars were each equipped with Nailable Steel floor, the former combined with a metal grain strip closing the space between the floor and the wall. A Pennsylvania flat car was equipped with the initial installation of built-in hold-down fixtures combined with Nailable Steel floor. A Pennsylvania gondola car with Nailable Steel floor was also included.

A Western Fruit Express mechanical refrigerator car was fitted with N.S. floor racks.

The International Railway Car Company exhibited an Erie bay-window steel caboose equipped for radio communication, one of several standard designs developed by this company.

International Steel

The International Steel Company was represented in the track exhibit by a 50-ton box car which incorporates a number of special features developed by this company and designed to promote longer trouble-free service life. These include the All-Purpose Bulk-Lading door; W-section corner; novel upper side-sill element with integral threshold; double Z-flange panel door posts; notched and fitted posts, and others.

A 100-Ton Flat Car

The high spot of the Magor Car Company track exhibit was one of the 100-ton flat cars built for the Army Transportation Corps to carry two combat tanks per car over American railroads. This is one of an order of 650 of these cars which, by utilizing high-tensile steel extensively, is capable of transporting 245,600 lb. per car. Special end-sill construction was required to provide for loading over the ends. The light weight of this car is 69,400 lb. and it has a length, over striking plates, of 54 ft. 8 in. Included also in the Magor exhibit is an Atlantic Coast Line 30-50 cu. yd. air-operated dump car having a capacity of 100,000 lb. and a length, over striking plates, of 34 ft. 2 in.

Matisa Equipment Corporation

The only piece of maintenance-of-way equipment on the tracks, in addition to dump cars, was the Matisa Equipment Corporation's automatic power tamper.

Pressed Steel Car Exhibit

Pressed Steel Car Company exhibited one of 4,950 P.S.C. standard "Payloader" hopper cars of 50- and 70-ton capacity which have been built by the company's Mt. Vernon Car Manufacturing Division.

The car displayed is a 70-ton triple hopper car, of all-welded design, one of 500 built recently for the Missouri-Kansas-Texas. This car has 30-deg. hopper floor slopes which are sufficient for the discharge of coal, sand, gravel, crushed rock and similar materials.

Pullman-Standard Cars

The Pullman-Standard Car Manufacturing Company's latest designs in both passenger and standardized freight cars were featured on the track exhibit.

Among others are the first public appearance together of all three of the company's all-welded standardized freight cars—the PS-1 box car, the PS-2 covered hopper car, and the PS-3 open-top hopper.

Also on the track were a recently built Chicago & Eastern Illinois sleeping car, which features for the first time Pullman-Standard's latest S-type bedrooms and roomettes. This car contains six open sections, four double bedrooms, and six roomettes.

The Pullman-Standard track exhibit also included an experimental model of a new-type cushion-underframe flat car with automatic hold-down devices and a loading arrangement for the transportation of highway truck trailers on the railroads.

Making its first public appearance in the Pullman-Standard exhibit was a new type ore car designed for use in extreme temperatures on the Quebec, North Shore & Labrador, where it will haul iron ore 357 miles through the Canadian wilds. The car displayed is an all-welded design and is equipped with Timken roller-bearings.

This builder also featured the results of its years of research into lading problems. These devices include new type Compartmentizer bulk-heading gates installed in a specially painted Western Pacific PS-1 box car, which have been in service for the past year.

Symington-Gould Corporation

Chrysler trucks were exhibited by the Symington-Gould Corporation under Fruit Growers Express and Western Fruit Express mechanical refrigerator cars.

Cars with Roller Bearings

Among the track exhibits of the Timken Roller Bearing Company were an Atlantic Coast Line Class W-4 pulpwood car equipped with Timken 5½-in. by 10-in. roller bearings, also one of the 2,000 97-ton ore cars being built for the Quebec, North Shore & Labrador. All of the latter, the entire revenue rolling stock of the railroad, are equipped with roller bearings.

The exhibit also included Timken roller bearings on a Western Pacific "Compartmentizer" car.

Union Asbestos & Rubber Co.

Equipco hand brakes of this manufacturer were installed on one of the refrigerator cars on the track exhibit.

19 Years Old and Still Going Strong

On the twentieth anniversary of the introduction of United States Steel high-strength steel, this company exhibited one of the first hopper cars built of Cor-Ten steel alongside the most recent cars built for railroads to carry coal traffic.

IN THE NORTH SECTION the locomotive builders had on display the highest-powered single cab locomotive built to date and two new units for export service.

Among these cars is a Baltimore & Ohio 50-ton hopper car built in May 1934, which was one of the first cars in which Cor-Ten steel was used. The history of this car is dealt with in an article on page 116 of the June 15 *Railway Age*.

All three of the major soft-coal carrying roads were represented in the United States Steel track exhibit, there being the Virginian 55-ton hopper car, the Chesapeake & Ohio 70-ton hopper car, and the Norfolk & Western 70-ton hopper car.

Since 1947 the Virginian has built 4,300 hopper cars of the design which was on exhibition, with bodies of Cor-Ten steel.

The Chesapeake & Ohio has used this material for body sheets in 6,500 cars of the design on exhibit built since 1950.

The Norfolk & Western car exhibited is typical of one of the latest designs of 70-ton cars in which Cor-Ten steel has been used.

In addition, the United States Steel track exhibit included an Illinois Central lightweight hopper car and an experimental Cor-Ten steel hopper car designed and built by the Railroad Research Bureau of United States Steel in 1946 to serve as a stimulus to further development and refinement of designs in lightweight equipment.

Westinghouse Electric Corporation

This firm displayed a Pennsylvania Ignitron electric locomotive unit.

Wine Railway Appliance Company

Wine cast-steel hopper frames and adjustable locks were exhibited on the Virginian twin-hopper car. Wine drop bottom spring hinges and adjustable door locks were on a Santa Fe 22-door drop-bottom gondola.

High Spots of the A.A.R. Mechanical

Five-day session heard seven addresses and fifteen technical reports—Influence of research growing. New laboratory under way to expedite progress

An exceptionally large attendance, a number of addresses by forward-looking executives, and a group of committee reports and discussions marking progress in the work of the organization characterized the sessions of the Mechanical Division at Atlantic City June 22-26, inclusive, during a Railway Supply Manufacturers Association exhibition which was outstanding in the effectiveness with which products were displayed and demonstrated.

The division's opening session on Monday convened following the general session over which C. W. Floyd Coffin, president of R.S.M.A., presided. It was called to order by the chairman, H. T. Cover, assistant vice-president — operation, and chief of motive power, Pennsylvania.

The Principal Addresses

The first session was addressed by J. M. Symes, executive vice-president, Pennsylvania, and J. H. Aydelott, vice-president, Operations and Maintenance Department, A.A.R. Mr. Symes recommended "accounts for non-accountants" as tools for the use of mechanical officers.

Mr. Aydelott appraised the effect of continuous improvement in motive power and cars in keeping American transportation costs low.

The second day's addresses were by W. J. Patterson, member, Interstate Commerce Commission, and E. A. Londahl, traffic manager, Farm Equipment Institute. Mr. Patterson bore down hard on air-brake maintenance and inspection rules which he said represented minimum requirements, but which are not being observed as generally as they should be because of what he considers inadequate penalties. Mr. Londahl spoke of the ways in which the railroads could improve the service of the railroads to the manufacturers of farm equipment in the distribution of their product.

Wednesday's session was addressed by William White, president of the New York Central, and Thursday's by V. M. Dawson, chairman of the Purchases & Stores Division and assistant purchasing agent of the Baltimore & Ohio. Mr. White spoke on the subject, "Railroading Is a Business," and developed its implications to all railroad supervisors. Mr. Dawson talked about inventory control and developed the possibility of joint committee work on the part of A.A.R. divisions representing using departments and Purchases & Stores.

On Monday Mr. Cover, in his address as chairman of the Mechanical Division, dwelt on the importance of recruiting young men of education for the mechanical as well as for all other departments.

The General Committee, in its report, announced that the 1954 meeting of the division will be held at the Hotel Sherman, Chicago, with no exhibit. The dates are June 29, 30 and July 1. The 1955 meeting will be held at the Mount Royal Hotel, Montreal, Que. In 1954 the A.A.R. Electrical Section will meet at the same time and place as the Mechanical Division.

Controlled-Slack Coupler

Following a letter received from a voting member recommending that the controlled-slack coupler be made alternate standard for the Type H tightlock coupler for passenger cars, the General Committee has decided that official tests should be made of the controlled-slack coupler similar to those to which the Type H tightlock coupler was subjected in its development.

The Research Office has continued its practice of recent years of giving first priority to all phases of the hot-box problem. To provide additional facilities for journal-box and bearing research as well as other problems of the division, a new mechanical research laboratory building has been constructed. This building was scheduled to be completed July 1, 1953, and arrangements will be made to build up the facilities for lubrication research, move the draft-gear testing machinery from Purdue University, and provide better facilities for refrigerator-car research.

After the 1952 annual meeting, a research program to develop what steps were necessary to solve the hot-box problem was augmented by the authorization of two outside research contracts, one with the Armour Research Foundation and one with the Franklin Institute. The work of these two institutions was intended to augment the work done by the A.A.R. central research laboratory on this problem.

The Nominating Committee offered the following recommendations for General Committee members to serve until June 1955; F. K. Mitchell, assistant vice-president—equipment, NYC system; A. G. Kann, general superintendent equipment, IC; J. L. Robson, general superintendent motive power, GN; B. M. Brown, general superintendent motive power, SP; and A. C. Melanson, chief of motive power and car equipment, CNR, to succeed W. A. Newman, deceased. In addition, C. E. Pond, general superintendent motive power, N&W, was nominated to serve out the term, expiring June 1954, left vacant when the late R. G. Henley retired. Announcement of the election of these nominees was made Friday morning.

Clarification of Interchange Rules

The purpose of the principal changes recommended by the Arbitration Committee in its report was to clarify definitions and intent in order to eliminate misunderstandings, to conform to present practices and include

new types of special equipment, to provide for interchange of refrigerator cars with gasoline-driven refrigerator units where these are not locally prohibited, to increase from two to three years after the car is first received on the home line the period within which repairs authorized by defect cards must be made in order to justify a bill, to provide protection for the receiving line for rusted or pitted journals offered in interchange where caused by floods, to clarify the intent as to the duties of the inspection department and bring them up to date in line with present railroad requirements, and to bring manual regulations and billing therefor up to date in line with present practices. The latter is the only recommendation calling for letter ballot action.

List of Monthly Price Changes

The Committee on Prices for Labor and Materials continues its work of analyzing material, labor and new equipment costs in the A.A.R. Interchange Rules with a view to determining and recommending necessary changes to be made in the next supplement to the current code. The committee now has a list of 38 major items, including either labor or a combination of labor and material, to be changed the first of the month following, whenever there is a net increase or decrease of at least five cents per hour in the A.A.R. freight-car labor rate. No printed supplements other than the regular August 1 Supplement to the Interchange Rules will be issued hereafter to cover combination items and all combination items other than the 38 major items will be changed only in the August 1 supplement or in the regular annual revision of the code.

The Committee on Loading Rules reported further work with various shippers' groups as well as with individual shippers investigating and developing new methods of loading commodities on open-top cars in the interest of safe and efficient handling.

As a result of agreement in conference with the U.S. Department of Defense last July, a new pamphlet MD-7 being prepared will contain up-to-date revision of present loading methods for government shipments. It is expected that Pamphlet MD-7 can be printed and issued some time this fall.

Six types of shipments were cited in the report as proving troublesome to carriers, including motor graders, motor cranes, shovel-type cranes, crawler tractors, large pipe and tractors with pneumatic tires. Revised loading instructions and figures were suggested to overcome these difficulties.

Comment in the discussion indicated that open-top car loading now constitutes a problem second in importance only to hot boxes.

Forest Products

The Special Committee on Forest Products Loading reported a joint meeting with representatives of pole shippers to develop improved methods of loading poles and piling and clarify the intent of existing specifications. All methods were revised and simplified. Two methods no longer in use were deleted.

The report called for closer inspection by carriers to make sure that loading rules are followed in the preparation of shipments and said that six subjects still being considered by the committee will require a supplement to MD-3 at a future date. These subjects cover mainly the loading of creosoted lumber and poles.

Difficulties with unpeeled pulpwood shipments are limited and localized more or less on one-track railroads, so the committee recommends no changes in MD-3 instructions regarding this type of load.

More Tank-Car Types

The Tank Car Committee issued a special permit to authorize experimental service trials on transporting hydrogen peroxide in Class ICC-103A-AL-W tank cars, which have tanks of a newly developed aluminum alloy (XB54S) in lieu of that presently authorized. Specification Class ICC-104A-AL-W, covering tank cars with fusion welded aluminum tanks, was adopted and such cars authorized to carry flammable liquids. The installation of certain equipment for determining quantity of contents, such as gaging and sampling devices, was made optional instead of mandatory. Where used, however, it must be of approved design.

The question was asked during the discussion as to why an application had to be filed for converting a car from insulated to uninsulated. Such a conversion reduces the load on the underframe and, therefore, should be allowable without having to file an application. This would reduce paper work.

Two new types of geared hand brakes were approved, and the Committee on Geared Hand Brakes prepared a table of lubrication data on all hand brakes approved to date, showing where and how to lubricate each one. The committee is investigating what time limits would be

Coordination of Divisions

"The ability of our railroads to produce transportation at costs which are unequaled anywhere in the world has been due in large measure to the constant improvement which they have made in their locomotives and cars progressively through the years, and particularly since the turn of the century. Each new type of locomotive procured was larger and heavier than that which it replaced. This required laying heavier rail sections, and that the ballast used be of improved quality. Sidings and yard tracks had to be lengthened, and there were many other changes required in fixed property.

"The successful operation of a railroad requires the closest of relationships between the various departments. Awareness of the other fellow's problems and a willingness to be helpful about them is exemplified in a proposal that there be interlocking of memberships on several important committees of the various divisions in our association. Under this plan the Mechanical Division will know what action is called for when an issue is raised and it can then be determined the extent to which other divisions can contribute to its solution."—*J. H. Aydelott.*

Improving Machinery Handling

"There are many ways in which the railroads can improve their service to manufacturers of farm equipment and machinery. Those of major importance are: (1) adequate supply of long flat cars with good decks; (2) improvement of stake pockets on freight cars; (3) installation of anchor plates, of hold-downs in the floors of all cars and in the sides of box cars; and (4) better policing to prevent pilferage of equipment loaded on open-top cars. More of the longer cars (over 50 ft.) are essential now because more equipment is being shipped completely assembled. The decks of many flat cars are badly in need of repair. On some cars they do not hold the blocks and supports. Edges of stake pockets are sometimes sharp and cut the wires used to secure farm machines to car decks. The pilferage problem can be met only by adequate policing of freight yards and team tracks by the carriers."—*E. A. Londahl.*

acceptable to car owners for periodic dismantling of hand brakes; at present, this is expected to be every other air-brake overhaul, or between five and six years. The practice of welding hand-brake housings to the support brackets in addition to bolting or riveting was cautioned against as it makes the malleable iron brittle, causing it to crack and break; also, to remove the housings, they must be burned off, destroying them unnecessarily. Current work includes preparation of a table covering permissible substitution of various wheels on approved geared hand brakes.

It was suggested several times in the discussion that the list of approved hand brakes is too long; that the committee should not keep adding approved brakes to the list without removing old ones; that the manufacturers barely satisfy minimum requirements in an endeavor to keep costs down, and that real design work is needed to produce a good hand brake at a reasonable cost. One road has built a tester on which hand brakes are cycled to destruction and now buys brakes from only two manufacturers, except for special installation. The opinion was expressed that improvement of hand brakes would make it unnecessary to dismantle them more frequently than every 15 or 20 years. Even now, it was suggested, that the interval could be 10 years if supplemented by checking on the rip track.

Car Design and Maintenance

The report of the Commmittee on Car Construction dealt with 25 items of car design changes and car maintenance methods. Some of them follow.

Tilt tests will be made of a covered hopper car design with a center of gravity of 87 in., 3 in. over the recommended maximum. The results of the test will be considered before approval of the design.

Tests have indicated there are 22 known insulations which meet the fire-resistant requirement for refrigerator cars. The committee recommends that insulation, not including the enveloping material, must be fire resistant.

Side-frame failures in service could be ultimately reduced if member roads would report such failures to the secretary with a view to having frames of the patterns causing the greatest amount of trouble from derailments removed from service and scrapped.

The committee recommended that journal-bearing wedges be reclaimed by machining or grinding, provided the original top contour is restored and that thickness and length be kept within specified limits.

The committee agrees that a circular letter should be prepared to cover methods of repairs of older cars with Duryea cushion underframes according to drawings prepared by the Hulson Company.

The committee considered the expense of keeping records on original test brake beams not justifiable and recommended that the reports be discontinued. It did not authorize service tests of new brake beams before granting conditional approval. The committee has sufficient data to grant conditional approval based on laboratory tests.

A special subcommittee investigated interference of angle cocks on certain passenger equipment with long-shank tightlock couplers. It found that moving the angle cock 10 in. back longitudinally will in most cases eliminate the interference. The committee proposed a support for floor boards which project more than 1 in. beyond the side sills on flat cars.

Proposed modifications of Section L of the Manual set forth the condition under which the welding of metal running boards, brake steps, dome steps, and dome platforms is or is not permitted.

Because of failures and the difficulties in detecting defects, the committee recommended that cars equipped with Allied full cushion trucks be prohibited in passenger-car service on and after January 1, 1955. These trucks are not now being manufactured. Several members, speaking from the floor, thought the committee's recommendation is too drastic. As a result Chairman Cover said that further study will be given to this item before submission to letter ballot. The committee recommendation is based on failures of these trucks and the difficulty of getting replacement parts.

The committee recommended five steps that could be taken to eliminate complaints from grain elevators and flour-mill operators that perforated plates in doorway areas become fouled underneath with grain which ferments and contaminates the car and is also considered a cause of weevil infestation. Because of differences in car construction, the committee considers that each railroad must decide what measures to adopt.

Deplores Lack of Air-Brake Penalties

"Evidence of the failure of the railroads to comply with the minimum requirements of the air-brake maintenance and inspection rules can be found in observation reports furnished by I.C.C. inspectors. Checking such reports covering a two year period on eight railroads, picked at random, we find that 132 trains were observed departing from terminals without an air-brake test having been made. The situation is one for which there appears no practical solution other than the enactment of legislation giving the commission definite and specific authority over the matter. Such proposed legislation has now been introduced."—*W. J. Patterson.*

A discussion of the use of low-alloy high-strength steel for car construction was presented by C. S. Patton, Jr., assistant superintendent motive power, car, Norfolk & Western. Tests of low-alloy high-strength steel show that it will produce an expected car service life of 20 to 24 years. In addition to its resistance to corrosion, he said, this steel is uniform in thickness, lends itself to welding and takes a coating very well.

Brake-Pipe Leakage

The Committee on Brakes and Brake Equipment brought out the fact that the Flowrator and controlling diaphragm cock, an auxiliary device for connecting directly to the present standard single-car test device, was used to test 2,390 freight cars between December 17, 1952, and March 17, 1953. The Flowrator detected excessive leakage in AB valves and reservoir pipes of 265 cars, or 30 per cent of all cars condemned that would not have been found by the present standard single-car test device. A subcommittee will collaborate with air-brake manufacturers in modification of the present single-car testing device that will provide a more restrictive release test both for passenger and freight cars. Several members commended the Flowrator during the discussion. One road is ordering a considerable number because it is believed a necessity in overcoming leakage on long trains.

An inspection was made of 25 ABLC (load-compensating) brake equipments that have been in service an average of 28 months on Illinois Central 50-ton hopper cars. The equipment was found in good condition generally, except for an unusual number of broken pipes and loose bolts and nuts. The examination of the parts showed the equipment in good clean condition with a few exceptions, and it is believed that the new design of 7-in. by 12-in. brake cylinder will eliminate some of these exceptions. Referring to the broken pipes and loose nuts and bolts, a representative of the Westinghouse Air Brake Company said the condition of the cars was poor because many of them were held on tracks until 25 cars could be accumulated for inspection.

An inspection and test was also made on 36 QRR brake-cylinder release valves on Illinois Central cars. All were found to be in perfect condition and it is believed this valve is operating as intended and will take appreciable wear without malfunction.

A subcommittee on automatic slack adjusters was instructed to prepare complete specifications and instructions regarding certificate of approval and a suitable test code. The proposed specifications developed to date include 16 special and 7 general requirements.

To date the air-brake companies have made no suggestions or recommendations as to the cause of stuck brakes experienced in freight trains of all AB brakes.

Type F Coupler Progress

Among the Coupler and Draft Gear Committee items recommended for submission to letter ballot were the approval of a booklet, based on investigation of over 900 train partings, which describes and illustrates the condition of couplers and associated parts that contribute to train partings and tells what the correct conditions are; adoption of the 1951 tentative specifications for rubber draft gears; inclusion of 17½-in. and 18½-in. pocket gears in the specifications, and the prohibiting of the application of secondhand draft gears to foreign cars along with rules for disposing of defective gears removed from foreign cars. The committee also recommended that standard 24⅝-in. pocket gears be required for all new cars other than ore cars built new after January 1, 1954. The committee recommended that the Type F interlocking coupler be advanced to alternate standard.

In the discussion the advantages of the Type F coupler were cited by one member who considers that there are no disadvantages. It was also stated that approximately 3,500 car sets of this coupler were already applied or on order. The practicability of the method of determining free slack in draft gears was questioned; in the average repair yard the workman uses an 8-lb. sledge to move a 1,000-lb. assembly and the assembly can not be driven far enough to make the necessary adjustments.

In the matter of "break-in-two's" one member suggested that some of the difficulty could be attributed to the improper application of uncoupling rods and brackets and that if more attention were paid to the application of these parts, some of the difficulty might be eliminated.

In concluding the discussion, the chairman, C. K. Stein, mechanical engineer, Pennsylvania, called the attention of the membership to the fact that Rules 17 and 101 were drawn up to discourage the use of non-approved gears and added weight to the suggestion that secondhand gears be applied only to system cars.

The Committee on Specifications for Materials re-

"Accounts for Non-accountants"

"Expenditures in the maintenance-of-equipment department for the railroad industry are scattered over some 250,000 miles of territory—and for the most part the money you spend is in mobile equipment that is constantly on the move over your individual railroad—and, in the case of freight cars and some passenger cars, over the entire country.

"This means that you should have an adequate and simple understandable system of cost accounting so you will know at all times just what you are getting in the way of output for the dollars being spent. I have many reasons for believing that you are somewhat weak in that respect.

"Better accounting reports mean 'accounts for non-accountants,' not 'accounts for accountants.' Cars require repairs because of many conditions: use, commodity loading, switching, age, modernization, and things of that kind. But how many of you know how much it really costs to repair a car, divided as between the various classes of equipment and as between the different age groups of equipment? Many of you are fooled because these charges are pooled. You simply can't pool a lot of different things and produce a correct answer for any of them.

"In the past probably the cost of maintaining information such as I am suggesting was prohibitive. But as you now see the many mechanical and electronic methods of records being kept, maybe you mechanical officers should reappraise the field in the light of present-day conditions."—*J. M. Symes.*

"Railroading Is a Business"

"Railroading is a business. That is a simple statement, but one that far too many railroad men do not fully analyze in all its implications. They forget that the same rules that govern success in any other business also apply in railroading. More important than the differences are the essential points on which a railroad is exactly the same kind of business as any other enterprise:

- **A railroad, like any other business, is operated for the primary purpose of making a profit;**
- **It attempts to make that profit by producing and selling a service;**
- **All the auxiliary benefits which it creates are possible only if the railroad succeeds in its primary task of making a profit;**
- **It can succeed in that task only if it produces a service of such quality and at such price that it can be sold in quantities commensurate with the size of its property and investment."—*William White.***

ported the zinc content in the bronze backs of journal bearings changed to include a range between 2½ and 4½ per cent in place of the previous limits of 3 to 4 per cent. The maximum allowable percentage by weight of threads under 6 in. long in new waste was increased from 4 to 8 per cent.

Test of a lower viscosity car oil with an additive in place of EM-906 All Year Oil without additive were made on three roads. One discontinued it because of no noticeable benefits. The other two are continuing it during 1953. A review of an interim report on the laboratory investigation showed that the additive used had no detrimental effect on the waste pack or bearings, and that the lighter oils tended to vaporize quite early, eventually resulting in increased viscosity. The oil lost due to vaporization of the lighter oil is a considerable factor compared to the present specification oil.

Recruiting Young Men

"None of us likes to admit it, but each of us becomes a year older every year, and, as time moves on, one of the biggest challenges that each railroad officer faces is the training of a proper group of employees to fill in and move into key positions. Practically every railroad has some plan whereby college or university graduates are recruited and, after proper training, assigned to minor supervisory positions. On the Pennsylvania we have set up a training course for engineers both in the mechanical and maintenance-of-way departments.

"Top officers of our railroads visit only universities and colleges which we consider accredited groups of schools, and interview and discuss railroad problems with students who are considering railroading as a career. It is not a difficult problem to sell this idea to most of the people interviewed, since railroading promises excitement, travel, new interests, new places, and new people.

"Railroading is a staple industry which spells security. Railroading will be necessary as long as the United States needs transportation. The primary urge must be with the individual. If he is interested, our procedure is rather pleasant."—*H. T. Cover.*

A suggestion was made from the floor that the Mechanical Division specifications should be complete in themselves so that users would not find it necessary to refer to other specifications which might not be readily available.

In answer to another suggestion, the chairman said that the term "injurious defect" in the axle specifications would be clarified.

Revision of the preheat clause for welding high-tensile casting was suggested to eliminate preheat under certain conditions of thickness, carbon content and hardenability.

Safety Appliances

The Safety Appliances Committee recommended approval for the Apex Tri-Lok Type A-1 metal running board and reported that the revision of Maintenance of Air Brake and Air Signal Equipment on Locomotives and Cars must be held in abeyance for the time being.

The report of the Committee on Wheels contained some proposed revisions of chilled-wheel specifications and brief reports on the X-2 cast-steel wheel with 1.50 per cent carbon content, 126 of which were in service on 31 cars up to February 1953, and the X-3 cast-steel wheel with 0.75 per cent carbon content, 100,000 of which have been authorized for interchange service.

Further service and laboratory tests of diesel wrought-steel wheels were proposed; condemning limits for wheels and axles revised; magnetic-particle testing prescribed for full axle length by removal of the axle-drive pulley; and the Wheel and Axle Manual was revised to permit use of stationary-wheel and single-pass mills for boring car wheels if A.A.R. standard tolerances are maintained.

The question was raised in the discussion if the tread shelling of the new 40-in. wrought-steel wheels for diesel service in some instances was due to the relatively thin 1¾-in. rim thickness. A representative of the wrought steel wheel industry said that even one wheel failure is one too many and promised full cooperation in efforts to make wrought steel wheels as nearly perfect as possible. At the same time, he said a study shows an average service life per failure for this type of wheel of about 500 million miles. In other words, in spite of the notable safety of passenger service, it is really safer to be a wrought-steel wheel than a passenger.

A representative of the Association of Manufacturers of Chilled Car Wheels said the new cast-steel wheels will probably not replace chilled-iron wheels for a good many years, as wheels of this type are now the best ever made and further improvements may be expected.

Journal-Box Lubrication

The report of the Lubrication Committee covered numerous important phases of one of the major problems confronting railroads today. Roller-bearing lubricants were covered and further road service and laboratory tests proposed. Other subjects included in the report were journal-box lids, spring-type packing retainers, and a number of proprietary lubrication devices.

The activities of the Mechanical Research Department in connection with lubrication tests last year were outlined and a list of work in prospect included. Among the latter were a study of refrigerator-car journal packing

subject to contamination from brine drippings, participation in a special investigation of the service of journal bearings when fitted to known journal and bearing sizes conducted by the Merchants Despatch Transportation Corporation, a study of hot-box causes and possible remedy by the Armour Research Foundation, and a study of journal-bearing materials by the Franklin Institute.

Material specifications have been proposed for the Loudig Iron-Back bearing, now approved as an alternate A.A.R. standard. The Empire journal lubricator has been approved for 1,000 car sets in interchange. Not enough service performance has been obtained on either the Hennessy or Jeffers journal lubricators to permit proper evaluation.

Some revisions of the A.A.R. Lubrication Manual were proposed and the relation of spring-plankless trucks and excessive lateral to hot boxes was discussed, but no recommendations have yet been made.

Reductions in hot boxes in some instances were credited in the discussion to better observance of A.A.R. rules, holding trains for proper servicing, and providing enough box packers and oilers to give journal boxes necessary attention in departure yards. Truck maintenance was said to be fully as important as car body maintenance. One member suggested that spring packing retainers be made mandatory on interchange cars. Their success depends upon there being enough packing in the box so that the springs will not depress it away from the journal, and the application such that the collars will not be cut. Some of the members are favorably impressed with the proprietary lubrication devices and consider them well worth following up. One member expressed the belief that tight lids and dust guard seals are the key to the success of these lubricating devices.

Axle Research Continues

The report on Axle and Crank Pin Research included the status of tests of passenger-car axles with 5½-in. by 10-in. journals; fatigue tests on axles made to Specification M-126-49; and experimental fatigue tests on axles quenched below the critical and on as-forged axles.

The report also included the status of current assignments as follows: broken and burned-off journals resulting from overheated hearings; black-collar axles havin as-forged body; Pittsburgh Steel tubular axle for all purposes; tubular-axle failures; development of journal roller-bearing assemblies; and protective surface coating for the body portion of axles.

Burned-off journals were said fom the floor to have cost the railroads 8.84 cents per 1,000 car-miles in 1948, according to one study in contrast to which the figure had now jumped to 30.19 cents.

Diesel Fire Prevention

The Locomotive Construction report is divided in three sections, on steam and electric locomotives; diesel-electric locomotives and gas turbine locomotives.

The report says, "The steam and electric locomotive section has no matters to bring before the members at this time. The matter of further activities of this section is now under consideration by the General Committee."

Section Two of the report dealt with eight items all of which had to do with suggested standardization of couplers and lube-oil filter elements. Other sections dealt with fire protection, derailments due to overheated motor suspension bearings and traction-motor bearings; road service tests of wheel-slip-indicating devices; strength of diesel locomotive main frames; designation of sides and ends, and methods to improve the shunting of track circuits on single-unit self-propelled cars equipped with disc brakes.

The section on fire protection outlined, as recommended practice, the minimum of fire protection equipment which should be provided on diesel-electric locomotives and called attention to the necessity of cleanliness in locomotive operation. Fourteen danger points on diesel locomotives were specified as requiring special attention.

The section dealing with traction-motor bearings brought to the attention of the membership tests being made on armature bearings on the Santa Fe and included eight improvements which have been effected by that road as a result of the tests.

That section which dealt with the shunting of track circuits on self-propelled cars concluded with a list of precautions which should be observed on this type of equipment to insure satisfactory functioning of signal equipment.

The third section of the report—that dealing with gas-turbine locomotives—was in the nature of a progress report on the units which have been under tests in this country as well as a summary of recent developments on foreign gas-turbine locomotives.

A revised standard nomenclature for the axle and truck arrangement of locomotives with electric transmission was offered.

Most of the discussion emphasized the absolute necessity of good maintenance such as cleaning, especially of electrical parts, which is most difficult, in the interest of fire prevention.

Inventories Are Expensive

"Some railroad managements are allowing themselves to be led back into the dark ages when they permit each using department to have its private stock of materials with a clerk responsible only to his superior officer in the using department for ordering and caring for material.

"Every department has a specific function. If each handles its work efficiently, it will have plenty to do without trying to add the responsibilities of any other department. One of the greatest bugaboos we have to contend with is the apparent idea held by using departments that materials can be ordered today and secured tomorrow. It takes months to get certain items of material; therefore, your programs must be carefully planned in advance to avoid delays due to lack of vital material.

"Few railroads have continuous programs where the materials can be ordered on an even-flow basis. This is unfortunate since the savings possible under such an arrangement are enormous. To bring about closer cooperation between our divisions it has been recommended that there be more collaboration between our working committees. To accomplish this it has been arranged that you will have representatives on some of our committees and we will have representatives on some of yours."
—*V. N. Dawson.*

Rainie of B&M Heads P. & S.

Purchases and Stores men outline concrete proposals for increasing efficiency of departments on all roads

H. M. Rainie

G. E. Wilson

As report after report was presented to members of the Purchases & Stores Division of the Association of American Railroads, at its 27th annual convention at Atlantic City, N.J., June 22-26, it became clear that the division, during the year past, had made real strides in its efforts to be a more efficient service to the railroad industry. Furthermore, in the year ahead, the division's stepped-up activities give promise of making P. & S. men of even greater value to the railroads they represent.

Accomplishment of these objectives is being achieved through increased committee activity in planned directions. The division's program is leading to better collaboration between it and, particularly, the Mechanical and Engineering Divisions of the A.A.R. Also, an attempt is being made to set up some tentative yardsticks by which both purchasing and stores departments can measure the efficiency of their operations against those of other roads of comparable size. This, one purchasing agent said, is something which has been needed for a long time.

Toward Better Cooperation

More than 600 P. & S. men, a record attendance for the division, attended the five-day session and saw exhibits by members of the Railway Supply Manufacturers' Association.

On the last day of its meeting, the division elected H. M. Rainie, vice-president—purchases and stores, of the Boston & Maine, to lead it during the coming year. The new vice-chairman is G. E. Wilson, manager of stores of the Reading.

That there is a need for better cooperation between the using departments and the purchasing and stores departments of railroads was brought out clearly by H. T. Cover, assistant vice-president—operation, of the Pennsylvania, and chairman of the A.A.R.'s Mechanical Division, who spoke to the Purchases & Stores Division on June 24. V. N. Dawson, assistant purchasing agent, Baltimore & Ohio, and chairman of the P. & S. Division, speaking to the Mechanical Division on the morning of the 25th, also suggested some means for making inter-departmental cooperation a reality.

This collaboration is being achieved already, to a certain extent, but there is more of it ahead, other speakers and committees brought out. The P. & S. Division's committee on Forest Products is suggesting, for example, that a group from the Mechanical Division's Committee on Car Construction sit down with it to rewrite specifications for air-dried car lumber. The P. & S. people feel that such new specifications will enable the railroads eventually to get lower priced lumber.

Simplification and Standardization

Similarly, the P. & S. Committee on Simplification and Standardization of Stores Stock is recommending that Mechanical and P. & S. people talk with makers of steel cable and chain. These manufacturers are reducing the number of "standard" sizes and types of their products. Consequently railroads still using former "standards" have to pay premiums to get such material. Purchasing men feel that, if the railroaders talk with the manufacturers, there is a good chance that some of the older standards will be maintained as such, for a while at least. Consequently, the carriers will have a little more time to convert to the new standards, and will save some money.

Also, the division's committee charged with handling matters relating to purchasing and storing of maintenance of way and signal material suggested a program in which better understanding between the P. & S. and the signal and communications departments will enable carriers to reduce the amounts they have invested in spare parts for electronic communications and signal equipment. Another item which calls for a better understanding between the mechanical and purchases and stores departments is the matter of warranties on diesel locomotive parts. And P. & S. people have suggested a program designed to make it possible for the carriers to get the most out of the warranties on parts. The mechanical departments' collaboration is a "must" if the program is to succeed.

"Operations Analysis"

During the past year, the P. & S. division's Committee on Purchasing Department—Organization and Procedure, set up, on an experimental basis, what it called an

"Operations Analysis Service." This service compares certain aspects of purchasing operations of carriers of comparable size. During the past year 28 railroads furnished information to the committee. J. S. Fair, Jr., purchasing agent of the Pennsylvania, speaking to the division on the 25th, said some of the differences the committee discovered were astounding. In the purchasing department of one railroad, Mr. Fair stated, there was one mail clerk, while in the same department of another road of comparable size there were six mail clerks.

The same survey revealed that only a few railroads were maintaining records which made it possible for them to realize full benefits from the warranty on diesel parts. This led the division's Committee on Diesel Parts to suggest that where the value of any given part is over $300, the mechanical departments of the roads should maintain service records, by serial number, so that when such parts fail the railroads will be able to get credit for the failed part.

In the year ahead, an operations analysis service will be set up to compare stores department operations.

"Disinflation" Is Coming

One of the main speakers during the sessions of the P. & S. convention was G. A. Renard, executive secretary-treasurer of the National Association of Purchasing Agents. Mr. Renard told his audience that "disinflation" is coming and that in the days of competitive selling just ahead the difference between careful and careless buying is going to make the difference between profit and loss to many firms. To illustrate his point and to apply this thinking specifically to the railroad industry, Mr. Renard made the following statement: "A recent report indicates that net income of Class I railroads, for the first four months of this year, is making a favorable showing. Then it comments that, while higher rates and increased traffic are making their contributions to that comparison, basic improvements in management operations and techniques are *also* responsible for the increased profit margins, and will continue to influence them favorably."

"Is purchasing and conservation of materials an important factor in that development?" Mr. Renard asked. "Just you waste five per cent in those major cost items . . . and figure what it does to the profit on $25 or $50 million of increased income from traffic. . . . " This bore out, Mr. Renard went on, the truth of a recent statement by J. A. Hill, president of the Air Reduction Company. Mr. Hill said, "A profit is the difference between income and outgo. So, the size of the outgo is just as important in determining the ultimate profit as the amount of income. Consequently, spending is just as vital to good profits as intelligent and aggressive selling." Mr. Hill also said purchasing is not a service function but a profit-making activity, and that in well managed companies purchasing is represented in top operating councils.

Diesel Fuels

C. G. A. Rosen, consulting engineer for the Caterpillar Tractor Company, told the P. & S. men on June 23 that railroads are in position to seek and develop use of heavy or low grade diesel fuel. Such fuel would be lower in cost than present diesel oil, he said, and a price reduction of as little as one cent per gallon would mean savings of $1.2 million per year to one railroad. Use of such fuel, Mr. Rosen continued, brings with it maintenance problems. Increased wear on parts and accumulation of deposits will require more frequent overhaul with use of low grade fuel. These increased costs must be balanced against the saving in fuel costs, he concluded, if the railroads are to determine whether or not it will be economical to use such fuel.

Safety "Bonanza"

Featured speaker on the last day of the five-day convention was J. T. Williams, manager of safety of the Pennsylvania. Mr. Williams' address followed the showing of his railroad's new safety film, "The Breaking Point." Safety is a difficult thing to teach, Mr. Williams said, and people just don't like to be preached at. To get safety across, he pointed out, the appeal must be to people's emotions rather than to their intellect. In making "The Breaking Point," Mr. Williams continued, the Pennsylvania hid the many safety lessons contained in it beneath emotional and entertainment appeal, hoping that they would be transferred "to the audience in what we hope has been a painless way."

Mr. Williams noted that a passenger on a railroad train is safer than he is in his own home. A great deal of the credit for this, he stated was due to "our friends in the railway supply industry. . . . Their continued and growing concern for safety is evident in any product you may care to inspect at this great exhibition," Mr. Williams continued.

Altogether too often, the PRR safety man went on, people think that, in order to achieve production goals, safety has to be short-cut. But, "somewhere along the line each year industry finds to its sorrow that there are several billions of dollars of wrong corners cut. . . . That several billion dollar a year figure loss for American industry each year is a direct cost. The real total is several times that much. What could your company do with an increase in net income equal to the cost of these accident losses? It staggers the imagination to think of the improvement in our operation total safety could bring. Any part of that bonanza would be welcome and is well worth going after," he concluded.

"Beyond the Line of Duty"

Two A.A.R. vice-presidents, R. S. Henry and P. A. Hollar, told the P. & S. men that they are in a particularly fine position to help the railroads out of their present financial plight, through what Messrs. Hollar and Henry called "beyond line of duty" activities. P. & S. men, Mr. Hollar said, through their many contacts with the railroads' suppliers, have an unusual chance to get across to large numbers of persons and business firms the truths as to the railroads' difficulties from subsidized competition and outmoded regulation. The supply industry, then, could do a great deal to back up the carriers in their fight to obtain conditions which would make it possible for them to compete with other forms of transportation on more favorable terms.

MEMBERS OF THE SECTION at the opening session listening to the address by H. T. Cover.

The Electrical Section Meeting

A summary of the reports and discussions heard at Atlantic City by those attending the second annual gathering of this new A.A.R. unit

The second meeting of the Electrical Section of the Association of American Railroads was held in Atlantic City, N.J., June 24-26, in conjunction with the Railway Supply Manufacturers' Association exhibition and the annual meetings of the Purchases & Stores and the Mechanical Divisions of the A.A.R. To accomplish this it was necessary for the section to complete its year's work in nine months. This assignment was evidently accepted as a challenge, as is indicated by the thorough and comprehensive reports.

The section held its first meeting in September 1952, having previously functioned as two separate organizations representing, respectively, the Engineering and Mechanical Divisions. Since the beginning of the coordination, the section has employed a full-time secretary, S. W. Marras. The next meeting will be held June 29, 30 and July 1, 1954, with the Mechanical Division, in the Hotel Sherman, Chicago, without exhibits.

The first session of the Atlantic City meeting was opened by Chairman C. A. Williamson, electrical engineer of the Texas & New Orleans, with a reference to the rapid and constant changes and development in the electrical industry which the railroad electrical engineer must follow. So many are these changes, he said, that any one man must have digests of information. The committee reports, he said, provide these.

H. T. Cover, assistant vice-president—operation, and chief of motive power, Pennsylvania, and chairman of the Mechanical Division, made the keynote address. "I have appreciated for some time," he said, "the need for a strong coordinated Electrical Section, and I congratulate you on that achievement. I would also at this time like to compliment your very able secretary, Steve Marras, on the excellent job that he has done in getting your section ready for this annual meeting. The Mechanical Division and its membership stands ready to help the Electrical Section at all times." He concluded by saying, "I wish you all the best of luck and I predict that yours will be a fast growing organization in the future."

Mr. Marras, in his secretary's address, reviewed the history of the section and the work done during the past year by the Committee of Direction. He announced that the 1954 meeting will be held in Chicago and the 1955 meeting in Montreal.

Officers elected were as follows: Chairman, R. I. Fort, electrical engineer, equipment, IC; vice-chairman, K. H. Gordon, assistant electrical engineer, Pennsylvania. Committee of Direction, for one year: S. B. Pennell, assistant engineer, NYC; and S. R. Negley, electrical engineer, Reading. To serve for two years: C. R. Bland, assistant electrical engineer, rolling stock, C&O; and J. O. Fraker, electrical engineer and diesel supervisor, T&P. To serve for three years: R. F. Dougherty, general electrical and air-conditioning inspector, UP; and H. P. Wright, assistant to electrical engineer, B&O.

Air Conditioning and Refrigeration

The basic requirements of air conditioning are outlined in the report of the Commmittee on Air Conditioning and Refrigeration in such a way as to establish a

goal for both operators and designers. Other subjects dealt with in the report are humidity control, specifications for heating passenger-train cars, performance specifications for air filters, waste product heating for cars having under-car power plants, fuel-fired heaters for business cars, specifications for mechanical refrigeration of water cooler units and hermetically sealed air-conditioning units. A major part of the report is a summation of recommended practice for the maintenance of fresh and recirculated air filters at maintenance terminals.

Discussion centered largely around the number of control steps necessary for adequate air-conditioning control. Evidently no one approved of off-and-on cycling. It developed that in some locations in the country a two-step control is adequate, whereas in some places four and six stages are used. The major goal, it was agreed, is reliability.

Corrosion Resisting Materials

Subjects studied during the year by the Committee on Corrosion Resisting Materials were protective coatings, electrolytic rust removal, cathodic protection of tanks and buried metal and high-strength low-alloy pole-line hardware with a life approaching that of creosoted poles. A protective coating which has been found effective is a distillation residue from asphaltic base petroleums.

During the discussion attention was called to a protective coating for aluminum which will not break away on sharply curved surfaces. It was also brought out that the new line hardware will soon become available as stock items.

Advances in Rolling Stock

Recent developments in diesel-electric, straight-electric and gas-turbine-electric locomotives and locomotive accessories are described in the report of the Commmittee on Automotive and Electric Rolling Stock. A very comprehensive section of the report concerns the utilization of diesel-electric locomotives from the standpoint of electrical equipment limitations and characteristics. Two meters are recommended to fulfill the requirements of a standard load indicator on a locomotive. Other subjects reported on are ground relay performance and enclosures for keeping dust out of control equipment.

During the discussion it was suggested that the ground relay might be cut out when locomotives are cold and before heat dries them out, but this was looked on with little favor. It was said that too many liberties cannot be taken in desensitizing ground relays.

Heaters to prevent freezing of idle switchers in cold weather are described in the report of the Committee on Electric Heating. Also included are specifications for ballast type switch heaters and rules of procedure for thawing out frozen pipes electrically.

During the discussion it was brought out that the wattage used for heating oil can only be about one fourth as much as that for water, since too high a rate can cause carbonization of the oil.

Motors and Controls

The first part of the report of the Committee on Motors and Controls is given over to the application of photoelectric controls. Their applications are listed and their use for the control of outdoor lighting is described. Improved methods of controlling fuel-oil pumps in locomotive filling stations which will prevent loss of oil are described. The magnetic amplifier is referred to as a static and rugged control device which has been tried for axle generators and which may find other railroad applications.

The Committee on Application of Radio and Communication Systems to rolling stock has, during the past year, worked closely with the Radio and Allied Communications Section of the A.A.R. and tentative specifications have been drawn up for the power requirements of radio telephone equipment on rolling stock.

Car Electrical Equipment

Increasing passenger-car power requirements necessitating the use of under-car power plants are being given first attention by the Committee on Car Electrical Equipment. Electric diners now have as much as 70 kw. connected load and full dome cars with 20 tons of refrigeration have about 50 kw. of connected load. The report states that, in most cases, power for caboose communication systems is now being taken from the axle. Attention, it reports, is also being given to battery-powered walkie-talkie sets, since they save walking and delays when a train is required to make an emergency stop.

The necessary dependability of car electrical equipment was stressed in the discussion. Unlike electrical equipment which is used on highway trucks, it must go through without attention. A critical factor, it was brought out, is good radiator cooling. One of the gear

SECTION OFFICERS— Left to right: C. A. Williamson, chairman; R. I. Fort, vice-chairman; and S. W. Marras, secretary.

drives for caboose power described is reported to have operated for 400,000 miles and, when examined at 350,000 miles, was found in good condition. It is expected that production models will be available in six months.

The advantages of three-phase, four-wire power networks are shown in the report of the Committee on Power Supply. Coil-less circuit breakers are recommended and two means of cooling diesel locomotives in the summer are suggested and described. The subject of portable electric generating equipment for roadway tools is explored.

In the discussion the 120/208-volt network system was favored but it was pointed out that some 220-volt motors will not operate successfully on 208 volts. The low voltage was not recommended for air conditioning systems.

Railway Electrification

The report of the Committee on Railway Electrification calls attention to the investigation made by the Battelle Memorial Institute of the technical and economic aspects of electrification systems.

Referring to the Battelle report findings, H. F. Brown, consulting engineer, Westinghouse International Corporation, said that two important new factors are causing renewed interest in railway electrification. These are the application abroad of high-voltage on commercial frequencies which, he said, can reduce the initial costs from 40 to 60 per cent, and the development in this country of the Ignitron locomotive and motor car. He recommended that more study be given to the relative life, first cost, and maintenance costs over the life of straight electric versus diesel-electric locomotives. Such studies, he said, might show that electrification is not a dead issue.

Work being done this year by the Committee on Safety includes revision of the manual and a study of the principles of resuscitation, including pole-top resuscitation.

Methods of protecting structures against galvanic current are listed and described in the report of the Committee on Electrolysis. A correlation of cathodic protection is essential, the report states, since the protection applied by one company may offset what is being done by another. Actual installations of cathodic protection of steel water storage tanks are described.

In the discussion warning was given that many roads may be sorry for the practice of just sticking diesel fuel tanks in the ground with no protection against electrolysis. Experience with gasoline stations built this way shows they sometimes develop underground leaks and fires result.

The work given to the Committee on Wiring Diagrams for rolling stock constitutes a most difficult assignment. It attempts to coordinate the existing practices of many railroads and many manufacturers.

During the discussion it was made evident that much real work had been done. The Electrical Section extended its thanks to the manufacturers for making necessary concessions and a rising vote of thanks was given to the committee for the splendid report it had compiled.

The Committee on Wiring, Cable and Insulating Materials was given six assignments concerned primarily with standards for wire and cable. All of the six assignments are reported on and the resulting specifications constitute the most voluminous report presented at the 1953 meeting.

In the discussion the report was referred to as a herculean task which had finally provided car builders and railroad men with specifications they had been awaiting for a long time.

Repair Shops

The report of Committee No. 12 on Repair Shops stresses the importance of having a nucleus of capable individuals to supervise the work done in a diesel maintenance shop. It is recommended that these men be given the opportunity to attend manufacturers' diesel schools and visit other railroad shops. Without such personnel, the report states, the best shop facilities, whether small or large, cannot be operated efficiently.

The report outlines facilities required for making electrical repairs on railroads operating from 50 to 150 locomotive units. It also outlines in some detail methods used for testing control circuit jumper cables and means of shipping traction motors in such a way that they will not be damaged in transit. High potential direct current testing is referred to and various means of cleaning electrical equipment are described in some detail.

In the discussion it became apparent that there is little unanimity of opinion concerning the best way of testing jumpers or of cleaning electrical equipment, particularly of cleaning generators in place.

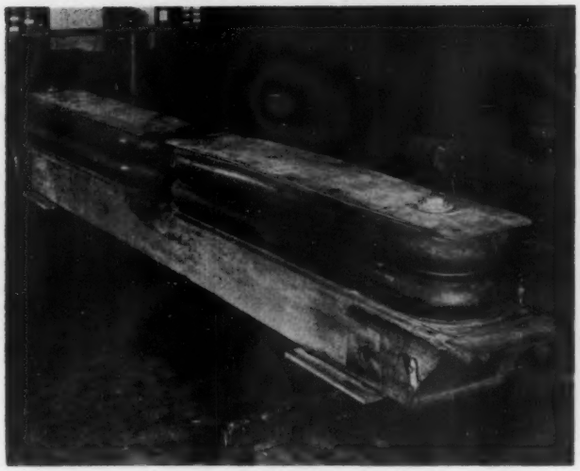
The Committee on Transmission Lines has been working on the subject of wire crossings working with the several other associations involved and an agreement prepared by the several associations has been approved by the Rural Electrification Committee.

The report of the Committee on Welding and Cutting deals primarily with welding on traction motor frames, gear case arms, truck equalizers, the application of sprayed metal and shop storage of electrodes. The requirements of ground clamps are described and the report states these must be applied so that welding current will not pass through bearings. Roller bearings are particularly susceptible to the passage of heavy electrical currents and even sleeve bearings may be damaged.

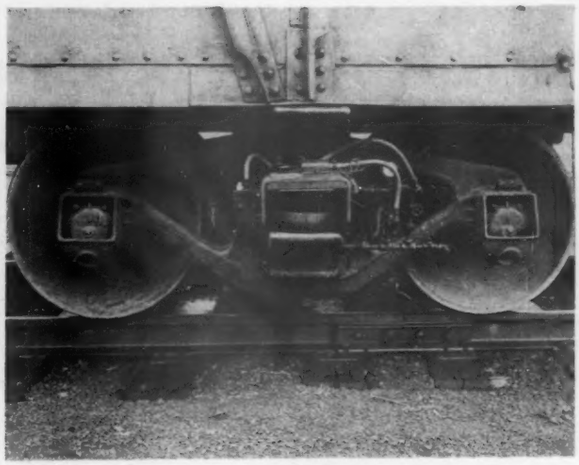
Illumination

Various types of new lighting sources are listed and described in the report of the Committee on Illumination. As an example of a modern lighting installation in a steam locomotive repair shop converted for use as a diesel shop, the Baltimore & Ohio Glenwood shop at Pittsburgh was used. Lamps recommended as standard for locomotive and passenger car lighting are listed and the report concluded with recommended footcandle intensities for all types of railroad lighting.

In the discussion some of the recommended footcandle intensities were questioned but data was produced to show that such intensities are being used. Types of lamps which are used very little were discussed and the committee will give consideration to the possibility of dropping them from the specifications since the cost of lamps goes down for those types on which the volume of production is high.



AIR CELL stripped of truck bolster.



AIR CELL mounted in truck of freight car.

Cars May Soon Float on Air

Joint development of the General Tire & Rubber Co. and the Timken Roller Bearing Company is a pneumatic cushion spring intended for application to both freight and passenger cars

Railroad freight and passenger cars floating on air may soon be a major achievement in railroad progress if a development sponsored jointly by the General Tire & Rubber Co. and the Timken Roller Bearing Company is as successful as preliminary tests indicate.

Most freight and passenger cars in use today are equipped with standard steel coil springs. When traversing a rough stretch of track, vertical oscillation or recoil action will result with cars so equipped.

This action is most severe when a freight car is empty or only partially loaded. To counteract this action both freight and passenger cars are being equipped with shock absorbers, snubbers, or elliptical springs, and freight-car trucks with built-in snubbers are being installed.

Looks Like a Life Raft

The General Tire & Rubber Co. has developed a new air spring which looks very much like a rubber life raft with the gunwales pressed together, with one side of the raft riding on top of the other. This air cushion would replace the conventional steel spring suspension system under the truck bolster. Engineers working on the air cushion believe that it will not only provide a much softer, easier ride, but may also make braking easier.

Preliminary tests were conducted between the Canton, Ohio, and Gambrinus plants of the Timken Roller Bearing Company on a freight car equipped with the air cushion spring, mounted in a modified conventional Timken-bearing-equipped freight truck. Sensitive recording devices were attached to a car equipped with the air cushion and also to a similar freight car equipped with standard coil springs. The recording and measuring devices showed that vertical oscillation was greatly reduced both in amplitude and frequency, making for a soft, easy ride. Since the up-and-down jolting of freight cars is one source of damage to lading, such damage should be substantially minimized.

Gets Pressure from Brake Pipe

The air cushion spring obtains its air pressure from the brake pipe. Air is fed into the rubber bellows of the air cushion through an automatic regulator which maintains a constant car-body height, regardless of the load.

The chances are remote for a freight car so equipped to be "hung up" en route. In case of damage to the air system of the spring, rubber shock pads within the springs take over, enabling the freight car to continue to a terminal for repairs.

The cushion spring air valves have three stages—one to admit air, one to release air, and a neutral stage during which no air passes in or out. Air pressures on freight-car air-cushion springs will probably range from 35 to 70 lb. per sq. in. with the car fully loaded. Deflection of the air spring per pound of load is about twice that of leaf springs on a fully loaded car. When running light, deflection per pound of load is four or five times that of leaf-spring suspensions.

R.S.P.A. Workshops Meet Again

On June 29 and 30 at Chicago, three workshop sessions sponsored by the Railway Systems and Procedures Association drew an attendance of 65 railroad men from the accounting, mechanical, methods, purchasing and traffic departments of 22 railroads. The subjects under discussion—two of them for the second time—were freight traffic statistics; freight car repair billing (new subject); and punched-card mechanical abstracting for interline received carload traffic.

Each conference group included men from two or more railroad departments. This interdepartmental and interrailroad approach in seeking answers to questions is, the association believes, fundamental to speeding up the process of making desirable changes.

Summaries of the activities follow:

FREIGHT TRAFFIC STATISTICS

Further work in defining and stating the somewhat nebulous needs of the traffic department for statistics and information on freight traffic was continued by this workshop group. Consideration was also given to forecasting traffic and revenues and to measuring traffic potentials. The group continued and expanded on the work started at its first meeting last spring (*Railway Age*, March 9, page 134).

A representative of one large railroad which has had considerable experience in preparing revenue and traffic forecasts and in determining traffic potentials explained its system in considerable detail. In the discussion it was apparent that those who have had experience in revenue forecasting thought that best results are obtained through the use of comparisons with national measures of industrial and economic activity.

Forecasts are made in terms of dollars, which are then converted into net revenue tons and other necessary statistics. Experience has shown this method is best because it covers minor variations in traffic which can easily upset forecasts based on tonnage or commodity statistics.

Considerable attention was given to determining exactly what sort of statistics the traffic department needs to carry out its functions properly and efficiently. Discussion brought out that *statistics* and *service information* frequently are confused and intermixed. The traffic department needs service information—a report of individual shipments—for tracing, for keeping track of sales and of controlled traffic accounts, and for providing shippers with reports of their shipment's movement. It needs this service information in *all* its traffic solicitation offices as quickly as possible.

As statistics, traffic apparently needs most of the waybill information but does not need it so quickly. It is best received periodically in weekly or monthly statements showing details of the traffic actually handled. Such information should be received with reasonable dispatch, preferably not more than three weeks after the end of the month.

The need for and desirability of a standard form to be used for advance telegraph consists was emphasized because of the extent to which it could simplify and expedite the interchange between railroads. Members of the workshop drew up their ideas of what information should be included on telegraph consists (see table).

When consideration turned to how to obtain the basic information necessary for proper freight traffic statistics, it quickly became obvious that the best source is the waybill itself. So the group devoted its attention to how best to secure the desired information with the smallest amount of labor, greatest accuracy and absolute minimum delay to trains, since yard offices must use waybills. In this connection a guest speaker described new types of electronic equipment now available which might be used to advantage in the solution of this problem. He suggested a system which might make possible the mechanical recording of statistical information from the waybill quickly, accurately and inexpensively.

At the next meeting of this group it is planned to have transportation officers sit down with traffic and accounting men in an effort to correlate statistical needs of the three departments and means of fulfilling them, since all want waybill information.

J. M. Hrebec, freight traffic manager of the Missouri

SEVERAL RAILROADS soon will be using punched cards for prorating interline freight revenue. In order further to simplify the re-audit portion of this work a number of roads are seeking standard card forms for exchange.

Suggested information to be included in reporting stations' telegraph train consists

Train Number Date Origin Terminal Destination Terminal
1. Car initial and number
2. Commodity
3. Point of origin and shipper
4. Point of destination and consignee
5. Complete route
6. Date of waybill
7. Waybill number.

NOTE: This is the information needed for traffic purposes only, and is not presented in any recommended order. For car accounting information as to type of car and gross and net weight could be included.

Pacific, presided over the discussion on June 29, while E. W. Bergstrom, assistant freight traffic manager of the Great Northern, took over these duties on the second day.

PUNCHED-CARD ABSTRACTING

The second meeting of the R.S.P.A. workshop on punched-card mechanical abstracting for interline received carload traffic got under way on June 29 with a summary of what had transpired at the February meeting. This, in part, was to refresh the memories of those who had taken part in the earlier session as well as to bring up to date new participants, some of whom were from roads about ready to go into punched-card mechanical abstracting. Some of these roads were eager to find out from the roads longest mechanized just what their savings had been. One carrier stated it had estimated mechanization would save about $75,000 per year, of which about $50,000 had been realized to date. Another railroad said its savings were about $20,000 per year, but that its mechanization was not yet complete, i.e. revenue from received traffic from all roads was not yet being prorated mechanically.

As mentioned in the first workshop sessions on punched-card mechanical abstracting (*Railway Age*, March 9, page 130), two roads had agreed to exchange master per cent cards, so that each could do a pre-audit on traffic on which the other as destination carrier would be settling. The idea behind this is that it would not be necessary each month to re-audit all abstracts forwarded by the settling carrier. Re-audit would be performed on a test check basis. One of the roads did send the other forms on which were printed all the information from the master per cent cards. The road receiving the information has checked it and has found some small errors, but on the whole reported it was well satisfied. It was pointed out that even though there were errors they had been discovered before the error was applied to abstracts. Three more roads have agreed to exchange similar information among themselves and with the two carriers already making such exchanges. Also, these roads agreed to try to set up a standard master per cent card (for exchange purposes only) in which per cents would be stated in the same manner.

As reported in *Railway Age*, one road has agreed to indicate monthly on its abstracts which traffic had been audited by the billing carrier the month before. That has been done, and this is enabling the origin carrier to re-audit the settling carrier's abstracts on a test check basis only, rather than on a 100 per cent basis. This will save the originating carrier, and any intermediate carriers which may wish to participate in the procedure, time and money in performing re-audit work.

Discussion leader for the two-day meeting was V. P. Morgan, supervisor of methods, Baltimore & Ohio.

BILLING CAR REPAIRS

The meetings of the workshop group seeking simplification of billing for freight car repairs were presided over by T. E. Drury, assistant to general auditor, Chicago, Rock Island & Pacific, and attended by 21 men, including representatives of nine railroads. The object of the conference was to bring together a small group of freight car repair, billing and accounting "experts" for unhampered, unofficial discussion of what can be done to simplify methods and avoid duplication and thus reduce the cost of performing this work. The thought was that any ideas developed which seemed to hold promise of achieving such results could be tried, by agreement between individual railroads. If the new methods worked out well other roads probably would adopt the new practices.

Discussion of past and present practices in billing for freight car repairs indicated great possibilities for improvement providing difficulties in the way are attacked with sufficient ingenuity, openmindedness and determination. One particular "sore spot" mentioned was the multitudinous repetition on bills of charges for small repair parts which cost more to bill for than to buy new. In a typical monthly bill for 10,009 freight-car repair items against a single large road, for example, 4,462 were one-price items which occurred with great frequency and added much to clerical cost with no adequate return. Cotter pins, at 26 cents each, were charged against 1,865 individual cars in this bill; brake shoes at $1.51 each, 1,331 cars; brake shoe keys, at 29 cents each, 294 cars; air hose, at $3.56 each, 218 cars. Nineteen unidentified items were listed at 24 cents each, 133 at 16 cents each and 50 at one cent each. A check indicated that 3,888 of the items on the bill cost $1.51 each, or less. The conferees asked the question: Why is such detail necessary?

The average number and cost of monthly car repair bills were discussed, but no figures developed for general publication. The use of mechanized business machines to expedite billing for car repairs was considered. Progress in adapting such machines to this work is sufficiently encouraging to warrant further and more general exploration, the conferees decided. The use of short cuts such as arbitrary allowances for group repairs was favorably mentioned, but arbitraries on a mileage basis were considered impracticable. Use of a monthly arbitrary based on prior-period actual repairs of owners' cars also was ruled out.

As a result of these discussions the participating roads agreed that each would look into two possibilities to meet this condition. One would be showing totals only on monthly bills to railroads or private car lines for the major repetitive items such as cotter pins, brake shoes, brake shoe keys, brake head wear plates and air hose. This to be in lieu of the present method of listing such items by the number of the car to which applied. Charges would be supported by copies of repair tickets. The other possibility is to use punched or keysort cards as the initial source of information for processing in the billing department to accumulate repetitive items for pricing and billing at minimum cost.

American Railroad in Jamaica

New standard-gage, diesel-powered line, 12 miles long, hauls bauxite ore from mines to tidewater

By **BURNEY K. MARTIN**

Diesel Service Engineer
Baldwin-Lima-Hamilton Corporation
Eddystone, Pa.

The Kaiser Bauxite Company, a subsidiary of the Kaiser Aluminum & Chemical Corp., has recently started operation of a new railroad in Jamaica, British West Indies. The line is 12 miles long, of standard gage, and extends from Little Pedro Point (Port Kaiser) on the south coast, 60 miles west of Kingston, in a northerly direction to bauxite deposits inland.

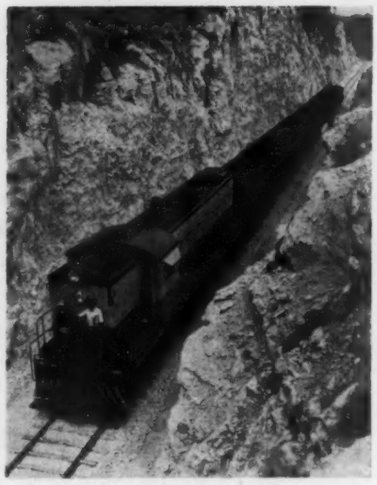
Construction was through difficult terrain, the line being carved from the rocky shore cliffs for the first mile, and afterwards cutting through many porous limestone hills to Milepost Seven, at an elevation of 740 ft., maintaining a 2.2 per cent grade. The remainder of the line traverses rolling country to the loading station, with a 1.5 per cent grade prevailing against loaded trains. Maximum curvature is 8 deg.

The line is laid with new 90-lb. rail on hardwood, locally produced, crossties. Each spike-hole was predrilled. Tieplates were laid on the sharper curves and turnouts with anticreepers on grade portions of the railroad. Limestone ballast of at least six inches under ties provides a substantial surface grade.

Terminal layouts were designed to accommodate 12-car trains. Slopes at the mine loading dock enable gravity respotting of cars. At Port Kaiser, road locomotives are uncoupled and a switcher is used to handle the train through a rotary car dumper, where the ore is dumped onto a system of feeders and conveyor belts. Empties are removed from the car dumper by gravity to a yard track where the train is made up for the return trip to the mine.

Traffic at four grade crossings was considered sufficient to require crossing tenders. This traffic ranges from ancient burro back loads to an occasional modern motor truck. Present railroad traffic consists of one loaded train each hour on a one-shift operation. Loaded and empty trains meet at a passing track near Milepost Seven.

Motive power consists of two 1,200-hp. diesel road-switchers for the line haul and one 75-ton diesel switcher for use in yard operations. Road locomotives are equipped with dynamic braking and schedule 6 SL air brakes with overspeed and operator's foot pedal safety features. The maximum speed of trains is limited to 25 m.p.h. An unusual electrical feature of the road locomotives is the full series connection of the traction motors using the 370 type for greater tractive and dynamic braking capacity.



MUCH of the right of way had to be carved out of rock.

Because of the numerous grade crossings, the locomotives are equipped with steamboat type horns and figure-eight type headlights in addition to standard headlights. The figure-eight headlight operated in daylight makes the approach of the train visible to trackworkers much farther away. Standard whistle signals are used.

Terminal facilities at Port Kaiser for motive power maintenance are ideal and consist of a spacious enclosed building with a full length inspection pit, 10-ton overhead crane and working platforms. Shop equipment includes machine tools, work benches, a full supply of hand tools and a nearby stock-room for spare parts.

The car fleet was assembled at the terminal and consists of 52, 70-ton, 70-cu. yd. capacity gondolas, 35 ft. long. Side and end sheets have a slight outward slope to permit rapid unloading at the rotary car dumper. The cars are equipped with standard traction and braking appliances. Several other cars are provided for service and track maintenance.

All the railway equipment was unloaded at the Port Kaiser dock from ships coming from United States ports. Kaiser Engineers Division of Henry J. Kaiser Company laid out the railroad, in addition to designing all the new Kaiser Bauxite facilities. The road locomotives were built by the Baldwin-Lima-Hamilton Corporation, the yard locomotive by General Electric (Cummins) and the ore cars by the Magor Car Company. Personnel for operation and maintenance are selected natives with mechanical experience.

CARS are unloaded with a rotary car dumper.

A TRUCK load of bauxite goes into a car.

DOORS • SIDE PANELS
BULKHEADS and PARTITIONS
in This Luxury Car are *73% Lighter*
Than Standard Steel Construction . . .

...because they are MET-L-WOOD

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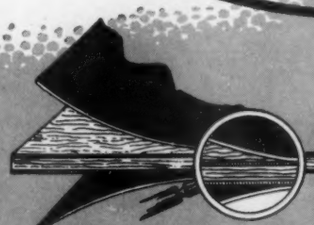
● Met-L-Wood, used in passenger cars, locomotives and baggage cars cuts deadweight to a minimum consistent with specified strengths, stiffnesses and durability. As an example, Type 2P2-3/8" Met-L-Wood, used in side panels and partitions has the stiffness of 1/4" steel plate—yet weighs only 2.6 lbs./sq. ft. as against 10 lbs./sq. ft. for 1/4" steel plate!

Whether you require prefabricated Met-L-Wood units to your specifications, or can use stock sizes and finishes, the basic utility and economy of Met-L-Wood for railroad rolling stock construction is worth investigating . . . today. Write for details on your specific requirements. Our engineering staff will gladly assist you in adapting Met-L-Wood versatility to your needs.



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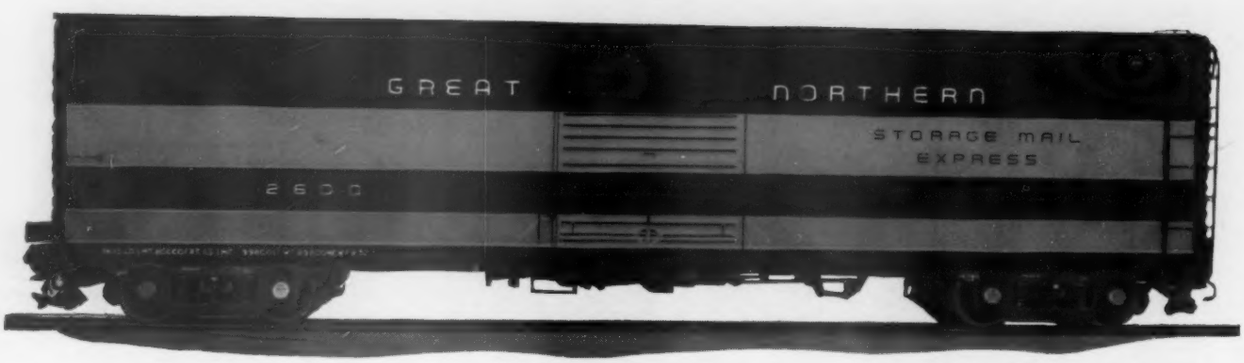
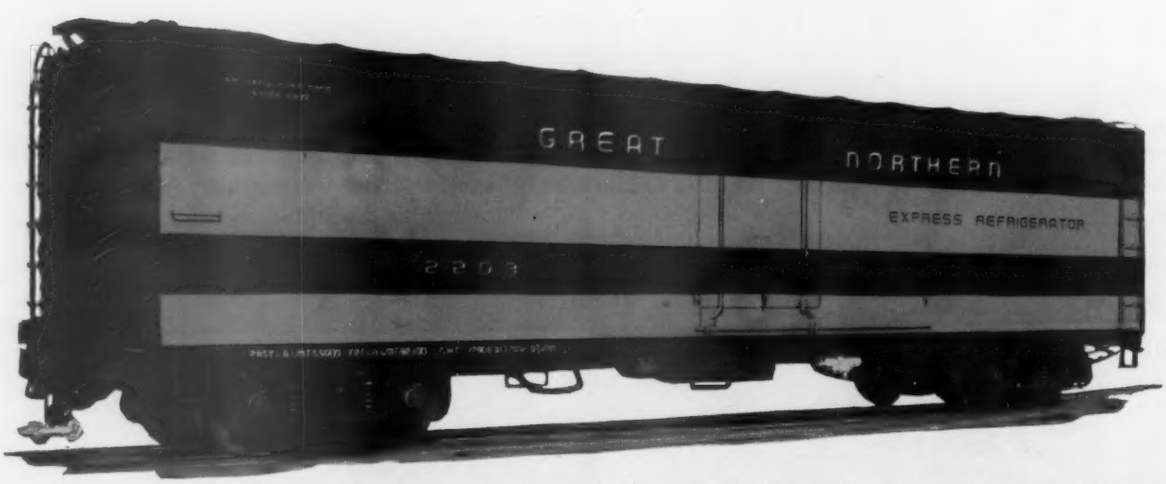


50 Storage Mail Express Cars Built by Great Northern Railway



50 Express Refrigerator Cars Built by Pacific Car and Foundry Co.

GENERAL STEEL

Express Refrigerator and Express Cars

HIGH SPEED TRUCKS

Commonwealth BX Truck equipped with Houdaille friction snubbers.

COMMONWEALTH Express Car Trucks are especially designed to meet the demand for a safe, smoothly operating light weight truck for cars operating in high speed train service.

Equalizers, swing motion, coil springs and friction snubbers combine to absorb rail shocks and provide smooth, safe riding of light or loaded cars, protecting car contents and minimizing damage claims. Upkeep costs of cars and track structure are materially reduced.

The rigid one piece cast steel truck frames with integral cross transoms and pedestals, insure axles being in tram at all times. Trucks are equipped with clasp brakes, roller bearings and bolster locking center pins.

COMMONWEALTH BX Trucks are approved for all types of Express-Refrigerator, Box-Express and Commodity Cars operating in all classes of passenger trains and are acceptable for interchange without restriction. For true economy and dependability, specify COMMONWEALTH Trucks.

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Save minutes of switching crew time by giving your men a Hayes Cushion Wheel Stop to switch against. You can get this modern track end protection quickly and at little cost. Not a hole to drill nor a wedge to drive; put in track in a few minutes by one man.

Hayes Track Appliance Co.

Richmond, Indiana

Law & Regulation

(*Continued from page 18*)

The Bureau of the Budget and Congress, Senator Johnson continued, haven't enough confidence in the commission to give it sufficient funds; and the commission is staffed by persons near the retirement age, with no adequate set-up for replacements.

Senator Johnson was also interested in whether or not Mr. Clarke would participate in the Ogden Gateway case if that proceeding came again before the commission. The case, which the Union Pacific has taken to the courts, involves a commission decision which calls upon the U.P. to join with the Denver & Rio Grande Western in joint rates and through routes on some traffic moving via Ogden, Utah.

The senator's questions brought out the fact that the Washington Public Service Commission had intervened in the case at a time when Mr. Clarke was chairman of that commission. For that reason, Mr. Clarke said, he would disqualify himself if the case came again before the I.C.C.

The foregoing took place at the committee's July 7 hearing on the Clarke nomination which President Eisenhower submitted to the Senate on May 19. (*Railway Age* May 25, page 14.) Otherwise the hearing involved statements praising Mr. Clarke. Although Mr. Clarke is a Republican, he got enthusiastic endorsements from Washington's two Democratic senators—Jackson and Magnuson.

Immediately after the hearing, the committee voted unanimously to report the nomination favorably to the Senate. The report was filed the same day, July 7, and confirmation came on the 8th. He succeeds Commissioner William J. Patterson.

TRAIN "SUCTION"? STUDY SHOWS OTHERWISE

Back in 1950 a group of Glencoe (Ill.) citizens filed a petition with the Illinois Commerce Commission seeking to limit speed of Chicago & North Western trains over certain more heavily traveled grade crossings within their village limits. They presented the argument that "suction" from high speed streamliners was apt to draw persons standing close to the track right under the trains. They asked the commission to limit speed of trains to 60 m.p.h.

To study the "suction" of fast-moving trains, the Illinois commission made tests with helium-filled balloons placed near the tracks on slender sticks. The sticks themselves were also marked with strips of surgical tape. Commission engineers observed that both balloons and tape strips blew away from, rather than toward, an approaching train. They conceded that air movement might cause someone unprepared to fall down. But the commission, in its report on the case, said few accidents of that type had been reported. And in another study covering accidents on C&NW right of way from 1947 to 1952, the commission found that 96 per cent of total casualties occurred with trains operating at speeds below 60 m.p.h.

The petition has been denied.

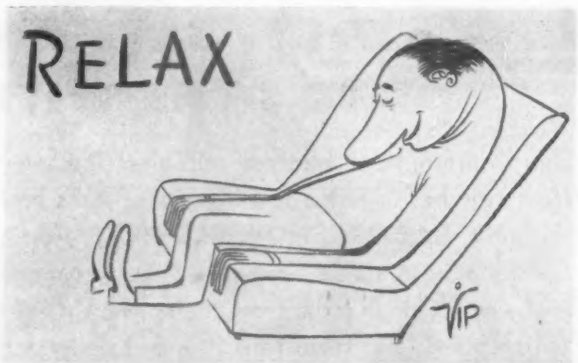
Competitive Transport

Trucks Given Edge for Short Oil Hauls in West

The Interstate Commerce Commission has determined that 75 miles is the point at which the "inherent advantage" of trucks gives way to the "inherent advantage" of railroads in the transportation of gasoline and light oils from points in Wyoming and Colorado to destinations in those states and western portions of South Dakota, Nebraska, and Kansas.

The determination was made by the commissioner's Division 3 in a report on proposed reductions in railroad rates to meet truck competition. The case was I.&S. No. 5853.

The railroads proposed, for all hauls



BILLBOARD ADS OF THE SOUTHERN PACIFIC—long an institution in Western states—have taken on a new, lighthearted touch under the guidance of Cartoonist Virgil Partch. Three of the eight cartoons which he has just done for the SP are reproduced above. In addition to using them on billboards, the SP has made up a series of miniature billboards which are set up for display at ticket offices, and elsewhere.

A NEW, EASY, SAFE AND ECONOMICAL WAY TO DEAL WITH SNOW-CLOGGED SWITCHES

Sharp, intermittent blasts of air blow the snow from switches in just a few seconds. That's how the new **RACOR SNOW-BLOWER*** works. *It's the easiest, safest, fastest and most economical* way to clear snow from the space between switch points and stock rails to avoid delay and danger.

The **RACOR SNOW-BLOWER** relieves the need for manual attention in bad weather, saving hours of time, labor and expense. It's easy to install, easy to maintain and operate. The **RACOR SNOW-BLOWER** is adaptable to remote control. It has been field-tested and proven during three winters under extreme snow conditions.

Let us figure on your next winter's requirements. Call our nearest representative for complete information about the ECONOMICAL new **RACOR SNOW-BLOWER.**

*Patent Applied For

America's Most Complete Line of Track Specialties

- RACOR STUDS
- RACOR TIE PADS
- AUTOMATIC SWITCH STANDS
- VERTICAL SWITCH RODS
- SAMSON SWITCH POINTS
- SWITCH POINT LOCKS
- RAIL LUBRICATORS
- ADJUSTABLE RAIL BRACES
- DEPTH HARDENED MANGANESE STEEL CROSSINGS
- REVERSIBLE MANGANESE STEEL CROSSINGS
- MANGANESE STEEL GUARD RAILS
- MANGANESE STEEL SWITCH POINT GUARD RAILS

American Brake Shoe

RAMAPO AJAX DIVISION
109 North Wabash Avenue, Chicago 2, Ill.

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Sales Offices: New York, N. Y.; Buffalo, N. Y.; Cleveland, Ohio; St. Louis, Mo.; Denver, Colo.; San Francisco, Cal.; Niagara Falls, Ont., Canada.

Plants: Chicago, Ill.; Chicago Heights, Ill.; E. St. Louis, Ill.; Buffalo, N. Y.; Superior, Wis.; Pueblo, Colo.; Los Angeles, Cal.; Niagara Falls, Ont., Can.

involved, a rate basis which would be generally about 1.5 cents per 100 lb. below the tank-truck basis. The division condemned the suspended tariffs —without prejudice to establishment of the proposed basis for hauls in excess of 75 miles.

"The evidence before us," the division said, "is convincing that for hauls below 75 miles the tank-truck costs are lower than those of the rail carriers, and that for the longer hauls the reverse is true. It thus appears that for the shorter hauls the motor carriers have an inherent advantage in cost over the rail carriers, and that the reverse is true for the longer hauls. There is no evidence before us that the [railroads] could operate under the proposed rates for the shorter hauls without casting a burden upon other traffic. In these circumstances, approval of the proposed rates for the shorter hauls would run counter to the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation so as 'to recognize and preserve the inherent advantages of each.'"

Commissioner Alldredge filed a separate opinion, "dissenting in part." On the "inherent advantage" matter, he would have drawn the line at 200 miles instead of 75 miles.

Public Relations

UP Planning New Film On Perishables

Western-grown fruits and vegetables —their growing, picking, packing and shipping—will be detailed in a 45-min. color sound motion picture now being planned by the agricultural development and public relations departments of the Union Pacific.

Sequences will be taken throughout the 11-state territory of the UP by Vincent H. Hunter, head of the road's motion picture bureau, and members of his staff. The film is expected to be available for showing to farm groups, schools, universities and other interested groups early in 1954. The company is making a special, shorter version for television showings.

Labor & Wages

Labor Bureau Will Supply Escalator-Clause Convertor

Representatives of railroad management and labor have asked the Bureau of Labor Statistics of the United States Department of Labor to furnish them with a conversion factor so that escalator-clause wage adjustments can hereafter be made on the basis of the bureau's new Consumers' Price Index.

Escalator clauses in railroad wage agreements are based on the bureau's "old series" index which was supplanted several months ago by the "new series." Publication of the "old series," which was continued to allow time for adjustments, will cease with issuance of the June 15 figures. Thus the necessity for development of a conversion factor.

Operations

Welded Rail Moved 850 Mi. In Open-End Ballast Cars

Welded rail in half-mile lengths has been moved by the Northern Pacific from a welding plant set up at Big Timber, Mont., to Stampede tunnel, near Seattle, Wash.—a distance of 850 miles.

The rail was carried in a train of 60 open-end ballast cars. Upon arrival at Stampede, it was unloaded and field-welded into continuous 2-mile sections for laying inside Stampede tunnel. The NP reports that this tunnel rail is the heaviest yet used on the system —140-lb.

The road has just completed a 12-mile welded rail program on its main transcontinental line east of Livingston, Mont., and with completion of the Stampede tunnel project will have more than 42 miles of welded mainline trackage.

EASTBOUND PERISHABLES TIME CUT BY 24 HOURS

Guaranteed sixth-morning delivery at Chicago has been announced for California perishables traffic loaded up to 11:59 P.M. This replaces the previous seventh-morning guaranteed delivery. A Santa Fe announcement to that effect on July 6 was "effective at once." It also provides fifth-morning guaranteed delivery at Kansas City instead of sixth.

Similar arrangements have been put into effect by the Union Pacific and one of its eastward connections, the Chicago & North Western. The C&NW specified that such shipments must reach Council Bluffs, Iowa, by 6:30 A.M. on the fifth day.

Organizations

Dr. Lewis K. Sillcox, vice-chairman of the board, New York Air Brake Company, has been nominated for president of the **American Society of Mechanical Engineers** for 1954.

The **Trans-Missouri-Kansas Shippers Board** will hold its 98th regular meeting September 16-17 at the Mayo Hotel, Tulsa, Okla. The **Traffic Club of Tulsa** is planning a dinner and entertainment for the evening of the 16th and a joint luncheon with the **Tulsa Chamber of Commerce Forum** on the 17th. General Chairman H. E. Bingham also has announced plans for the 99th regular

Briefly . . .

. . . A special four-car Chesapeake & Ohio freight train made what is believed to be the shortest railroad freight haul in history at Richmond, Va., June 11. Four box cars, pulled by a diesel locomotive, moved a distributor of electrical appliances, Louis O. Bowman, Inc., from old quarters at Tenth and Cary streets to new quarters at Fourteenth and Cary. Both sites have railroad loading docks and, Mr. Bowman said, "the railroad was the most convenient method for the move." The Bowman company loaded and unloaded the cars and paid C&O the regular switching charge.

. . . Another warning is being added to traditional cross-buck grade crossing signs by the Texas & Pacific. Attached at auto-headlight level—about four feet above the ground—is an 18-in. by 24-in. sign of red reflectorized material with the word "Danger" in half-foot high letters of silvery white. The T&P hopes the new sign will give added protection at night.

. . . The "Georgian"—Chicago-Atlanta passenger train of the Chicago & Eastern Illinois, Louisville & Nashville, and Nashville, Chattanooga & St. Louis—has marked its fifth birthday and passed the 800,000-mark in number of passengers carried. When placed in service in June 1948, the "Georgian" offered a new, fast overnight service between Chicago and Atlanta. Since that time it has been almost completely equipped with new streamline coaches, sleeping cars, dining cars and lounge cars.

. . . A new train-to-train transfer of hand baggage has been placed in effect by the Chicago & North Western and the New York Central for sleeping car passengers aboard certain trains. Passengers on the "City of Los Angeles," "City of San Francisco," or "City of Portland" may have their baggage taken directly to their space aboard the NYC's "20th Century Limited" or "Commodore Vanderbilt." The charge is 50 cents per piece; the transfer does not apply to loose articles, such as umbrellas, books, radios or loose apparel.

Cat 'Dozers slug it out with the world's toughest jobs

A D6-No. 6A Bulldozer, owned by the Q.N.S.&L. Railway, clears land for a railroad grade near Seven Islands, Quebec, Canada.

WHEN the Q.N.S & L. Railway had to drive a right of way through the bush for a new line to the Canadian iron mines, it needed tough equipment. A Caterpillar D6 Tractor with No. 6A Bulldozer got the call, and it met the test.

There are many reasons why the big yellow 'dozers are chosen for jobs like this. They have no equal as earthmovers because the scientifically curved moldboard *rolls* earth instead of pushing it. Heavy box section reinforcements run the full length of the blade, giving added strength and rigidity. The cutting edge is of high carbon steel for strength and abrasion resistance.

Wherever strain or severe wear is likely to occur, parts are heat-treated to strengthen and toughen them. Because Cat Bulldozers have no overhead frame, the operator can see where he is going and watch the corners of his blade. And the high lift feature is especially useful in pushing over trees or gouging into hills.

Your Caterpillar Dealer has a complete line of sturdy Cat Bulldozers, matched to all tractor sizes. He'll be glad to demonstrate the unit you need for off-track use. And he'll back its long work life with reliable service and a full stock of genuine Caterpillar parts.

CATERPILLAR, PEORIA, ILLINOIS

CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES
TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

meeting of the board, to be held December 2-3 at the Connor Hotel, Joplin, Mo. Cooperating in arrangements for this meeting will be the **Tri-State Traffic Club.**

Equipment & Supplies

FREIGHT CARS

The **Kansas City Southern** has ordered 200 50-ton flat cars from the American Car & Foundry Co.

PASSENGER CARS

The **Chicago, Rock Island & Pacific** has ordered 12 sleeping cars from the Pullman-Standard Car Manufacturing Company at an estimated cost of $2,200,000. Delivery is scheduled for September 1954. Authority to purchase these cars was reported in *Railway Age*, May 18, page 174.

The **Louisville & Nashville** is converting three sleeper-lounge cars into tavern-lounge cars for service on its "Pan American." The conversion will cost about $213,580.

The **New York Transit Authority** has called a public hearing for July 28 to draft a contract form for purchase of 200 new subway cars. The authority also has approved a request to the city's Board of Estimate for $200,000 to purchase 20 cars from the Staten Island Rapid Transit, which recently discontinued passenger service on its East Shore and North Shore branches (*Railway Age*, January 5, page 18).

LOCOMOTIVES

The **Pakistan government** will purchase 97 diesel locomotives in this country as part of its program to replace British-made steam locomotives. Included will be 46 broad-gage locomotives (18 for mainline service and 28 switchers), 40 meter-gage mainline locomotives and 11 meter-gage switchers.

Supply Trade

J. J. Merrill, field service engineer in the Chicago division of **A. M. Byers Company** for 11 years, has been appointed Boston division manager.

R. P. Jackson, manager of the Chicago district of the Wood Preserving division of **Koppers Company,** has been appointed executive assistant to vice-president, Western region. **C. F. Seyer, Jr.,** manager of the Texarkana district, has been transferred to the Chicago district and has been succeeded by **S. S. Curtis. G. M. Dewart** has been appointed district sales manager of the Denver district.

Westley J. Tuite, Chicago district manager of the **W. H. Brady Company,** has been promoted to general sales manager at the company's headquarters in Milwaukee. **Fred C. Kluhsman** has been appointed Chicago district representative; **Joseph I. Stone,** eastern district manager at Newark, N. J.; and **Paul J. Leonard,** mideastern district representative at Philadelphia.

The American Steel & Wire division of the **United States Steel Corporation** will construct a new rod mill on properties of the present Cuyahoga Works in Cleveland. The new facilities, which will include a combination rod mill, billet storage areas and rod storage areas, will have a rated capacity of 450,000 tons per year, compared to the present rated capacity of 313,000 tons a year.

Fred A. Robbins has been appointed chief engineer of the piston

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 126 reports (Form IBS) representing 130 steam railways

(Switching and Terminal Companies Not Included)

Income Items	United States For the month of March 1953	1952	For the three months of 1953	1952
1. Net railway operating income	$93,569,679	$76,764,002	$251,457,551	$218,894,420
2. Other income	18,966,536	16,718,425	55,277,832	50,616,488
3. Total income	112,536,215	93,482,427	306,735,383	269,510,908
4. Miscellaneous deductions from income	4,109,992	4,057,538	12,297,938	12,861,917
5. Income available for fixed charges	108,426,223	89,424,889	294,437,445	256,648,991
6. Fixed charges:				
6–01. Rent for leased roads and equipment	6,271,443	6,559,139	18,617,115	19,590,512
6–02. Interest deductions[1]	27,125,721	26,390,401	81,152,258	78,898,225
6–03. Amortization of discount on funded debt	250,340	245,745	715,370	735,206
6–04. Total fixed charges	33,647,504	33,195,285	100,484,743	99,223,943
7. Income after fixed charges	74,778,719	56,229,604	193,952,702	157,425,048
8. Other deductions	2,782,051	2,894,617	8,405,018	8,734,600
9. Net income	71,996,668	53,334,987	185,547,684	148,690,448
10. Depreciation (Way and structures and Equipment)	41,019,619	39,698,725	122,488,996	117,471,312
11. Federal income taxes	57,316,984	55,378,857	150,508,286	154,141,329
12. Dividend appropriations:				
12–01. On common stock	27,898,116	18,745,474	66,678,059	52,411,387
12–02. On preferred stock	4,508,164	3,720,306	30,642,419	27,226,107
Ratio of income to fixed charges (Item 5 ÷ 6—04)	3.22	2.69	2.93	2.59

Selected Expenditure and Asset Items	United States Balance at end of March 1953	1952
17. Expenditures (gross) for additions and betterments—Road	$79,837,637	$75,984,682
18. Expenditures (gross) for additions and betterments—Equipment	220,209,700	271,189,412
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	463,562,333	476,726,882
20. Other unadjusted debits	83,450,513	86,266,656
21. Cash	872,781,125	816,490,751
22. Temporary cash investments	946,763,352	810,362,030
23. Special deposits	121,049,621	83,700,588
24. Loans and bills receivable	1,251,358	1,435,062
25. Traffic and car-service balances—Dr.	68,113,918	60,603,218
26. Net balance receivable from agents and conductors	170,113,298	161,063,182
27. Miscellaneous accounts receivable	374,182,742	469,189,819
28. Materials and supplies	853,467,177	936,497,874
29. Interest and dividends receivable	16,469,719	15,481,325
30. Accrued accounts receivable	212,232,165	217,526,642
31. Other current assets	38,093,221	35,117,268
32. Total current assets (items 21 to 31)	3,674,517,696	3,607,467,759
Selected Liability Items		
40. Funded debt maturing within 6 months[2]	$158,993,357	$179,414,867
41. Loans and bills payable[3]	1,366,667	2,911,591
42. Traffic and car-service balances—Cr.	98,245,685	90,106,225
43. Audited accounts and wages payable	506,872,095	509,335,156
44. Miscellaneous accounts payable	208,289,594	200,970,558
45. Interest matured unpaid	61,843,857	60,866,753
46. Dividends matured unpaid	21,581,613	20,963,692
47. Unmatured interest accrued	78,451,570	77,446,554
48. Unmatured dividends declared	34,361,987	26,948,034
49. Accrued accounts payable	242,737,572	279,342,904
50. Taxes accrued	836,356,664	833,381,700
51. Other current liabilities	114,185,525	93,332,025
52. Total current liabilities (items 41 to 51)	2,204,292,829	2,195,605,192
53. Analysis of taxes accrued:		
53–01. U. S. Government taxes	656,118,900	667,265,432
53–02. Other than U. S. Government taxes	180,237,764	166,116,268
54. Other unadjusted credits	254,490,958	275,845,881

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which become due within six months after close of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.

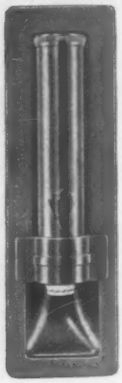
MAIN LINE
Rio Grande
THRU THE ROCKIES

Two famous signs in railroading...

the RIO GRANDE EMBLEM and DIXIE CUPS

RECESSED DISPENSER

Fits flush with bulkhead. Gleaming satin-chrome finish. Exclusive Dixie adaptors permit use of flat-bottom or cone-shaped Dixie Cups, either large or small. Cone shape available in either plain or rolled brim.



STREAMLINER

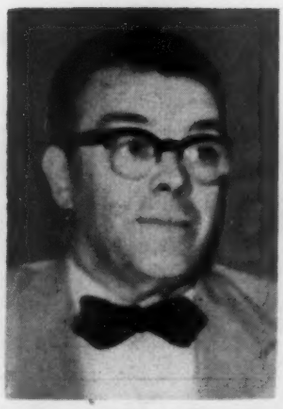
Smart, trim, easy to mount. Clear plastic window signals need for refill. Holds flat-bottom or cone-shaped Dixie Cups . . . either large or small.

The sleek beauty of the Rio Grande's "Prospector" is as familiar a sight to western travelers as Dixie Cups are to travelers everywhere. Long a part of American railroading, Dixie Cups provide the clean, safe drinking and quick, easy service that is so appreciated by the passengers of today. Dixie equipment is important, too, for good service. Handsome, functional, specially designed, it is available for every type of installation along with specially imprinted cups that are designed to your order.

"Dixie" is a registered trade mark of the Dixie Cup Company.

Write to Railroad Department **DIXIE CUP COMPANY** *Easton, Pa.*

STANDARD IN RAILROAD SERVICE FOR OVER 30 YEARS



W. E. Gadd, who has been appointed assistant to president, American Creosoting Company. He was formerly associated with the Rail Joint Company and Taylor-Colquitt Company and for the past year has been engaged in consulting work.

ring department of **Koppers Company,** and will be in charge of all engineering activities for American Hammered industrial piston rings. Mr. Robbins, a graduate of Purdue University, was senior project engineer in diesel engine development for the Electro-Motive Division of General Motors Corporation at LaGrange, Ill., from 1942 to 1952. He was then consultant to the Coordinating Research Council in New York, where he directed analysis during 1953 for full-scale railroad diesel tests.

Frank W. Wehrheim, sales manager of the electrical fittings division, **Appleton Electric Company,** has been appointed general sales manager at Chicago. **Daniel C. Wing** has been appointed sales engineer in the New England area.

A. G. Bissell, who retired June 1 as head civilian of the Welding, Casting and Forging branch of the U. S. Navy's Bureau of Ships, has been named engineering consultant to the Nelson Stud Welding division of **Gregory Industries, Inc.**

The **H. K. Porter Company** has acquired a controlling interest in **A. Leschen & Sons Rope Co.,** St. Louis, manufacturers of wire rope. Operations will continue as **Leschen Wire Rope Company,** a division of H. K. Porter, under direction of **D. W. Vernon,** vice-president and general manager.

Robert L. Holman has been appointed salesman in the railroad division of the **Wm. H. Ziegler Company,** with office in Minneapolis. He was formerly with the Nordberg Manufacturing Company.

Gladstone C. Hill, assistant to manager of sales of the **United States Steel Corporation** at Chicago, has been named assistant manager of sales at Indianapolis.

Factory branch offices of the Automatic Control and Uni-Flow divisions of **Barber-Colman Company** have been opened at 218 Harrison street, Syracuse, N.Y., **K. C. Watson,** manager; and at 1143 Mary street, Jacksonville, Fla., **D. W. Minick,** manager.

H. N. Gardner has been appointed a vice-president of the **Waugh Equipment Company.** Mr. Gardner was formerly vice-president of the Hulson Company, wholly owned subsidiary of Waugh. In an announcement on page 34 of the June 22 *Railway Age* Mr. Gardner's name was erroneously spelled "Bardner."

Harold B. Ressler, chairman of the executive committee of **Joseph T. Ryerson & Son, Inc.,** retired June 30. He will continue as a director.

Howard Gill has been appointed sales representative in southern territory for the **Flexible Steel Lacing Company,** succeeding **Austin Webster,** retired.

S. L. Brownlee, manager of sales, Western district, of the **Superheater Company, Division of Combustion Engineering, Inc.,** has been appointed manager of sales for the entire division. Mr. Brownlee started his career as a special apprentice on the

S. L. Brownlee

Rock Island, and from 1925 to 1938 was associated with the Worthington Corporation as field and service engineer. He then entered the employ of Superheater as service engineer in the western district and became sales manager of that district in October 1951.

Myron Bielat has been named to the sales staff of **Thomas & Betts Company's** Chicago office. **Billy R. Connor** replaces **Hugh Holcombe** in the North Carolina area, and **Samuel S. Jett, Jr.,** has been assigned to the Virginia area, except Danville and Fairfax counties.

OBITUARY

William B. Rudd, 64, senior engineer, classification yards, of the Union Switch & Signal Division of Westinghouse Air Brake Company, died June 25. Upon graduating from Yale University's Sheffield Scientific School in 1910, Mr. Rudd began his career with the Pennsylvania as a special apprentice. He held various positions with that road until he joined Union Switch in 1925 as commercial engineer in charge of the car retarder engineering section. During his service with the company he was active in design and development of 41 freight classification yards.

William B. Rudd

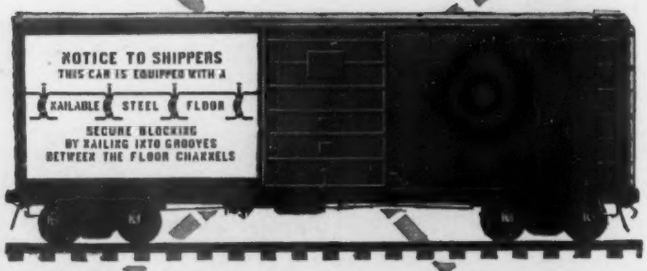
New Facilities

Atchison, Topeka & Santa Fe.—In connection with modernization of Corwith yard, Chicago, two additional contracts have been let. Franzel Brothers Company, Chicago, will construct sanitary and storm sewers and Louis Scully & Sons, also of Chicago, will construct the water distribution system including fire hydrants.

Chicago & Illinois Midland.—Construction of Kinney yard, Taylorville, Ill., will involve expenditure of $425,785 in 1953. The yard will serve the Peabody Coal Company's Mine No. 10 and will cost about $750,000 when completed. A bridge over the Sangamon river, three miles north of Springfield shops, will be rebuilt at a cost of $301,500. The work involves a new steel bridge on concrete piers with trestle approaches. New station buildings are to be built at Oakford and Manito for $12,000 each and at Forest City for $11,000. Grade crossing protection is being placed at 15th street and North Grande avenue, Springfield, at a cost of $17,265. The new station buildings and rebuilding the Sangamon

(*Continued on page 127*)

New Yesterday . . .
Established Today



NAILABLE STEEL FLOORING

The Standard of Tomorrow

New N-S-F applications, listed at right, as shown in cars at our track exhibit last month at the A.A.R. Convention in Atlantic City.

Made from tough N-A-X HIGH-TENSILE steel, N-S-F carries every kind of load — improves car availability.

Time was, not so long ago, when NAILABLE STEEL FLOORING was a novelty—something entirely new and different in freight cars. Today, N-S-F has proved its versatility and value in thousands of applications. And for tomorrow—all signs point to N-S-F becoming the standard for all cars requiring flat floors.

Why? Simply because N-S-F does a better job for railroads and shippers alike. NAILABLE STEEL FLOORING withstands all types of loading—lift truck . . . clamshell . . . magnet. It carries blocked and skidded loads, as well as bulk freight, with maximum security—makes every gondola a double-duty car.

To lengthen car floor life . . . to cut freight damage claims . . . to improve revenue car mileage—use NAILABLE STEEL FLOORING, the standard of tomorrow.

NEW APPLICATIONS

METAL GRAIN STRIPS—to make boxcars leak- and vermin-proof.
FLAT CARS—new hold-down features for greater safety.
REFRIGERATOR FLOOR RACKS—eliminate maintenance . . . expand usability.
DOOR POST SECTION—to increase strength . . . eliminate nailing damage.

GREAT LAKES STEEL CORPORATION
STEEL FLOOR DIVISION
Ecorse, Detroit 29, Mich.

NATIONAL STEEL CORPORATION

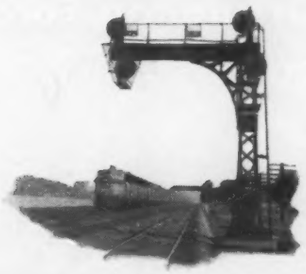
53-SF-5

PATENTS PENDING

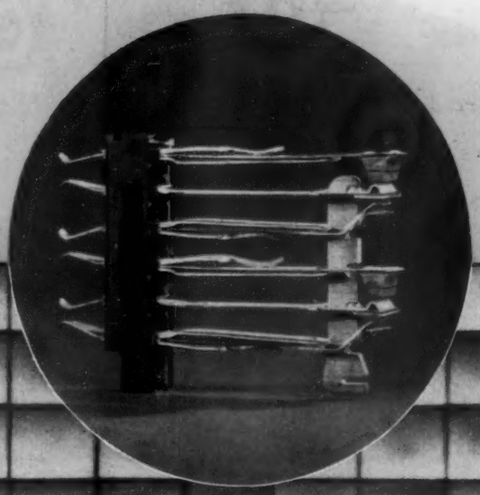
SALES REPRESENTATIVES IN:

CHICAGO, PHILADELPHIA, ST. LOUIS, ATLANTA, OMAHA, DENVER, SAN FRANCISCO, MONTREAL AND NEW YORK

These relay contacts



spell train safety—



Relay contact assembly showing silver-carbon contacts.

Radiograph discloses contacts with improper silver dispersion.

RADIOGRAPHY gives them the "Green Light"

RELAY CONTACTS for railway signals must have low resistance. Ideally, this would call for silver touching silver—but pure silver contacts might fuse if overloaded and the signal lock on green. Carbon contacts can avoid this but have too high resistance.

The answer lies in impregnating carbon with silver, then making sure by radiography that the silver grains are properly dispersed throughout the carbon. This provides assurance that the relay will have a non-fusing contact with low resistance.

It's another example of how radiography can prove internal soundness, whether in such a compound as this, in a casting, or a weld.

Radiography is improving products and production in many kinds of operations. To learn how it can help you, see your x-ray dealer.

EASTMAN KODAK COMPANY
X-ray Division, Rochester 4, N. Y.

Radiography...

another important function of photography

Kodak
TRADE MARK

Circulating, Forced Warm Air Reaches Every Nook and Cranny

VAPOR Overhead Heaters

Controlled, draft-free heat for baggage and mail cars

There's no better way to heat open cars where loading sometimes interferes with floor circulation. Under-roof installation takes no floor or wall space. Heated air is directed along ceiling and walls, *without draft*, to all parts of car.

A variable-speed fan, adjustable louvres on all four sides, and controlled steam flow to heater, provide fully selective flexibility of warmth and air circulation. And, in summer, this same compact unit gives welcome over-all car ventilation.

Low first cost, simple installation, and minimum maintenance make Vapor Overhead Heaters ideal for both protection and comfort at all seasons of the year. We'll be glad to send you complete information.

Adjustable louvres on all four sides give selective air distribution.

Opening the hinged bottom door exposes entire mechanism for inspection and air-blast cleaning.

NEW BULLETIN 581

Ask us to send you new Bulletin 581. It explains and describes Vapor Overhead Heaters; gives size, weight, heat-output, and motor specifications.

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JACKSONVILLE • RICHMOND • MONTREAL • LOS ANGELES

(*Continued from page 123*)
river bridge will be done in part by company forces. Contracts for remaining phases of these projects had not been let at the time of this writing.

Louisville & Nashville.—A 250,000-gal. diesel fuel tank will be built at East St. Louis, Ill. ($41,800). At Madison, Tenn., the bridge over Old Hickory boulevard will be rebuilt ($30,837). Two boilers at Boyles, Ala., will be converted from gas to electric power ($48,298). Major repairs will be made to Bridge No. 34, Cincinnati division ($29,784).

New York Central.—This road has withdrawn its application for authority to construct an 11.9-mile line between Russellville, W. Va., and a point near Landisburg (*Railway Age*, March 16, page 26). The Nicholas, Fayette & Greenbrier, owned jointly by the NYC and the Chesapeake & Ohio, would construct the line instead. An application to this effect is now pending before the I.C.C. (*Railway Age*, June 8, page 20).

Spokane International.—A fill will be placed at Fry Creek, Idaho, (about 120 miles east of Spokane, Wash.,) to replace the present trestle there. The project will require about 200,000 cubic yards of material and will cost approximately $100,000. Work began early in July and is scheduled for completion early in November. Armco drainage pipe will be placed at the bottom of the fill to take care of the water in Fry Creek.

Securities

Application

CHICAGO & NORTH WESTERN.—To assume liability for $4,185,000 in equipment trust certificates, to finance in part 825 freight cars costing an estimated $5,595,125. The road will acquire 625 box cars from Pullman-Standard Car Manufacturing Company, and 200 gondola cars from Bethlehem Steel Company. The certificates to be dated August 15, would mature in 15 annual installments of $279,000 each, beginning August 15, 1954. They would be sold by competitive bidding, with the interest rate to be set by such bids.

Authorizations

CHESAPEAKE & OHIO.—To assume liability for $3,000,000 of equipment trust certificates, to finance in part 626 freight cars costing an estimated $3,842,680 (*Railway Age*, June 8, page 24). Division 4 approved sale of the certificates for 99.17 with interest at 3⅝ per cent—the bid of Halsey, Stuart & Co. and four associates—which will make the average annual cost of the proceeds to the road approximately 3.76 per cent. The certificates, dated July 1, will mature in 30 semiannual installments of $100,000 each, beginning January 1, 1954. They were reoffered to the public at prices yielding from 2.9 to 3.75 per cent, according to maturity.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—To assume liability for $1,170,000 of equipment trust certificates, to finance in part nine diesel units costing an estimated $1,464,487 (*Railway Age*, June 1, page 89). Division 4 approved sale of the certificates for 99.15 with interest at 4½ per cent—the bid of Halsey, Stuart & Co.—which will make the average annual cost of the pro-

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When *all* of your revenue comes from transportation and distribution services — there's NOTHING as IMPORTANT as GOOD MATERIALS HANDLING, and good materials handling means — CLARK EQUIPMENT!

CLARK materials handling equipment is a PRODUCER
. . . of *Reductions* in Distribution Costs
. . . of *Increases* in Tonnages Handled
. . . of *Decreases* in Damage and Demurrage!

It's equally important to fix in your mind that NOBODY offers you as much —
in unbiased recommendations,
fine quality machines, and
prompt, capable service —
as your CLARK Dealer.

He's listed under "Trucks, Industrial" in the Yellow Pages of your 'phone book. Call him today.

1903 1953
FIRST FIFTY YEARS
CLARK EQUIPMENT

CLARK ELECTRIC, GAS, DIESEL, L.P.GAS FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS
INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 24, MICHIGAN
Please send: ☐ Condensed Catalog ☐ Have Representative Call ☐ Driver Training Movie
Name_____
Firm Name_____
Street_____
City_____ Zone_____ State_____
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

ceeds to the road approximately 4.7 per cent. The certificates, dated July 1, will mature in 15 annual installments of $78,000 each, beginning July 1, 1954. They were reoffered to the public at prices yielding from 3.5 to 4.5 per cent, according to maturity.

Dividends Declared

ATCHISON, TOPEKA & SANTA FE.—$1.25, quarterly, payable September 1 to holders of record July 31.

LAKE SUPERIOR & ISHPEMING.—35¢, quarterly, payable July 15 to holders of record July 1.

Security Price Averages

	July 7	Prev. Week	Last Year
Average price of 20 representative railway stocks	65.52	63.82	63.58
Average price of 20 representative railway bonds	89.93	89.49	93.73

Financial

Bamberger.—*Bus Subsidiary Sold.*—The Bamberger Transportation Company, a subsidiary of the Bamberger Railroad, has been sold to a new organization known as the Lake Shore Motor Coach Company. The reported sale price was $250,000. The recently dieselized Bamberger will continue to operate rail freight service between Salt Lake City and Ogden.

Railway Officers

EXECUTIVE

Willingham to Head Peoria & Pekin Union

G. J. Willingham, director of personnel of the Illinois Central, will become president and general manager of the Peoria & Pekin Union at Peoria,

G. J. Willingham

Ill., on September 1, succeeding James T. O'Dea, who will retire.

Mr. Willingham joined the Illinois Central as a chainman and rodman in

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there's a GRAYBAR man

who can save you time in obtaining railroad lamps and lighting equipment, pole line supplies, communication equipment, electrical repair-shop supplies, ... everything electrical!

At strategic points throughout the nation, many first-quality electrical items are conveniently available via Graybar. In the following list of Graybar warehouse locations, you'll find the name, address, and phone number of a Graybar Representative near you — a specialist who can help you obtain the electrical items you want with minimum delay. He'll gladly answer any questions about technical aspects, deliveries, prices, or Graybar service. *Graybar Electric Company, Inc. . . . in over 100 principal cities. Executive offices: Graybar Bldg., New York 17, N. Y.*

360-207

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Birmingham 4-1861 • L. A. Womeldorf
Mobile — 9 So. Commerce St.
Mobile 2-3511 • R. L. Wear

ARIZONA
*Phoenix — 434 West Madison Street
Phoenix 3-6131 • B. F. Keyfauver

ARKANSAS
Little Rock — 417 Byrd St.
Little Rock 5-1246 • J. C. English

CALIFORNIA
Fresno 2 — 101 Van Ness Ave.
Fresno 2-4175 • B. R. Cole
Long Beach 13 — 1700 Daisy Ave.
Long Beach 70-2911 • C. A. Overlease
*Los Angeles 54 — 210 Anderson St.
Angelus 3-7282 • C. V. Kelly
Oakland 7 — 1911 Union Street
Glencourt 1-5451 • M. L. Wilkins
*Sacramento 1 — 1900 14th Street
Gilbert 2-8976 • A. R. Fryklund
*San Diego 1 — 720 State Street
Franklin 1361 • R. T. Redfield
*San Francisco 1 — 1750 Alameda St.
Market 1-5131 • O. W. Balser

COLORADO
*Denver 4 — 104 Wazee Market
Tabor 7116 • H. E. Woodring

CONNECTICUT
West Hartford 6 — 453 New Park Ave.
Hartford 33-2631 • D. E. Sullivan
*New Haven 7 — 25 Union Street
New Haven 8-4163 • P. F. Lee
E. F. Berger

DELAWARE
Wilmington 3 — 1005-1007 W. Fourth St.
Wilmington 4-6245 • L. E. McIntyre

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*Washington 2 — 60 Florida Ave., N. E.
Adams 4800 • A. C. Eastburn

FLORIDA
*Jacksonville 1 — 12th & Main Sts.
Jacksonville 6-7611 • W. C. Winfree
D. E. Dodamead
W. P. Covington
Miami 30 — 835 Northwest First Ave.
Miami 9-1614 • J. E. Powell
Orlando — 533-35 W. Central Ave.
Orlando 6133 • H. E. Smitter
St. Petersburg 3 — 1900 First Ave., South
7-4161-2 • R. L. Munro
Tampa 1 — 416 Ellamae Street
Tampa 2-7791 • R. S. Robinson

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*Atlanta 1 — 333 North Ave., N. W.
Cypress 1751 • W. A. Northington
J. J. McEllen
G. Sweeney
*Savannah 1 — 2601 Whitaker St.
Savannah 2-1121 • W. B. Owens

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Boise — 14th & Idaho Sts.
Boise 6315 • L. Maynard Smith

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Canal 6-4100 • E. J. O'Donnell
F. D. Wilson
Peoria 2 — 704 South Adams St.
Peoria 4-8211 • W. W. Smilde

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Evansville 6-1357 • N. S. Muse
Hammond — 5830 Calumet Ave.
Sheffield 5830 • D. E. Clisbee
*Indianapolis 2 — 1300 W. 16th St.
Atlantic 2351 • R. W. Nelson

IOWA
Davenport — 206-210 East 5th St.
Davenport 3-2769 • E. L. Johnson
Des Moines 9 — 24 Eleventh Street
Des Moines 3-8614 • D. M. Hitchcock
Sioux City — 510 Pearl St.
Sioux City 5-0189 • E. A. Bartlett

KANSAS
Wichita 1 — 424 No. Rock Island Ave
Wichita 7-1366 • E. F. Linnerson

KENTUCKY
*Louisville 8 — 624-628 Myrtle St.
Calhoun 5411 • C. H. Brown
*Paducah — 418 Guthrie Building
Paducah 960 • H. V. Oakwood

LOUISIANA
Baton Rouge — 2442 Ted Dunham Ave.
Baton Rouge 4-7093 • S. M. Lawrason
*New Orleans 13 — 1116 Magnolia St.
Canal 6263 • A. W. Wheeler
Shreveport — 90 Fannin St.
Shreveport 4-6645 • E. F. Benning

MAINE
*Portland 3 — Center & Commercial Sts.
Portland 3-1761 • H. J. Scully

MARYLAND
*Baltimore 2 — 100 South Street
Saratoga 5050 • J. D. Rhoads

MASSACHUSETTS
*Boston 16 — 287 Columbus Avenue
Kenmore 6-4567 • G. J. Pink
Springfield 4 — 32 Patton St.
Springfield 7-4373 • H. O. Edeff
Worcester 5 — 108 Grove Street
Worcester 6-4311 • H. G. Rappel

MICHIGAN
*Detroit 1 — 55 West Canfield Ave.
Temple 1-5500 • C. R. Carlson
W. E. Watson
*Flint 6 — 2424 Kansas Ave.
Flint 2-4101 • C. L. Powell
Grand Rapids 2 — 432 Monroe Ave., N. W.
Glendale 1-2561 • H. G. Cook
*Lansing 10 — 421 E. Elm Street
Lansing 4-5434 • W. T. Bronson

MINNESOTA
*Duluth 2 — 320 West 1st Street
Melrose 6645 • E. W. Windahl
*Minneapolis 15 — 824 South Fourth St.
Geneva 1621 • D. J. Keefe
*St. Paul 1 — 464 Robert St.
Cedar 7491 • L. E. Luckman

MISSISSIPPI
*Jackson — 154 E. Porter St.
Jackson 3-6316 • A. N. Saxon

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*Kansas City 8 — 1644 Baltimore Ave.
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*St. Louis 3 — 2642 Washington Ave.
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R. M. Peck

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Atlantic 5740 • F. M. Sholders
L. J. O'Connell

NEW HAMPSHIRE
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Manchester 4-4341 • P. A. Dorn

NEW JERSEY
Newark 5 — 2 Liberty St.
Market 2-5100 • F. C. Sweeney

NEW YORK
*Albany 4 — 40 Van Woert St.
Albany 5-1564 • L. F. X. Bass
Binghamton — 603 Press Bldg.
Binghamton 2-5926 • M. E. Ransom
Buffalo 4 — 180 Perry St.
Washington 3700 • K. L. Thielscher
*New York City — 21-15 Bridge Plaza North
Long Island City 1
Exeter 2-2000 • W. C. Lieneck
Rochester 4 — 186 North Water St.
Baker 7700 • J. T. Porter
Syracuse 1 — 327 North West Street
Syracuse 2-1281 • W. J. McNulty

NORTH CAROLINA
Asheville — 221 Patton Avenue
Asheville 3-4761 • A. A. Wilson
*Charlotte 1 — 120 W. Morehead St.
Charlotte 6-4886 • H. Corey
Durham — 303 South Duke Street
Durham F-113 • L. A. Shaw
Winston-Salem 1 — 955-59 Brookstown Ave.
Winston-Salem 4-2461 • J. W. Van Dorsten

OHIO
Akron 9 — 185 Carroll St.
Jefferson 4-4143 • G. L. Call
*Cincinnati 14 — 115-129 W. McMicken Ave.
Main 0600 • C. J. Ellis
J. S. Wilkin
*Cleveland 14 — 1010 Rockwell Ave.
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Main 9166 • A. W. Hallett
Youngstown 1 — 602 West Rayen Ave.
Youngstown 4-0124 • J. T. Baker

OKLAHOMA
Oklahoma City 2 — 12 E. California St.
Oklahoma City 3-9351 • W. A. Arthur
Tulsa 4 — 2406 E. 12th St.
Tulsa 6-1151 • F. L. Cummings

OREGON
Eugene — 2180 6th Ave. West
Eugene 4-2224 • H. O. Colburn
*Portland 9 — Park & Flanders Sts.
Broadway 6641 • Marvin Peck

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Allentown — 1941 Hamilton Street
Allentown 4-9341
Bethlehem 1-0657 • W. L. Hall
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Philadelphia 7 — 910 Cherry St.
Walnut 2-5405 • W. W. Frazee, Jr.
D. M. Antrim
*Pittsburgh 12 — 900 Ridge Ave.
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R. F. Grossett
Reading — 22 South Third Street
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RHODE ISLAND
Providence 3 — 194-196 Richmond St.
Dexter 1-8100 • T. A. Purcell

SOUTH CAROLINA
Columbia — 710 Lady St.
Columbia 2-2125 • J. H. Littleton, Jr.

SOUTH DAKOTA
Aberdeen — 224 First Ave. S. E.
Aberdeen 2974 • D. G. Hubbard

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Bristol — 29 Fifth Street
South 4415 • R. L. Coward
J. R. Crang
Chattanooga 1 — 1222 Carter Street
Chattanooga 6-5624 • J. R. Feeney
Knoxville 30 — Henley St. & Union Ave.
Knoxville 3-6171 • C. C. McGraw
*Memphis 3 — 484 South Front Street
Memphis 37-3421 • W. J. Berry
*Nashville 3 — 125 16th Ave. No.
Nashville 6-7161 • Herschel Hall

TEXAS
*Amarillo — 601 E. 2nd Avenue
Amarillo 2-6778 • L. P. Bell
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Austin 8-5674 • George W. Cox
Beaumont — 1070 Fannin St.
Beaumont 2-8484 • L. A. Haley
Corpus Christi — 1311 Agnes St.
Corpus Christi 4-6374 • R. E. Broyles
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El Paso — 427 West San Antonio St.
El Paso 3-7561 • C. Newbill
*Fort Worth 7 — 1107 Foch St.
Edison 4523 • Vernon Young
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San Antonio 8 — 1401 N. Hackberry St.
Fannin 6274 • J. Emmett House

UTAH
*Salt Lake City 13 — 336 N. 3rd West St.
Salt Lake City 9-8771 • R. H. Lee

VIRGINIA
*Norfolk 1 — 333 West 21st St.
Norfolk 2-2727 • John Horne
T. A. Young
*Richmond 19 — 10 S. 6th St.
Richmond 7-3491 • E. C. Toms
*Roanoke 5 — 601 Salem Ave.
Roanoke 3-3615 • W. E. James

WASHINGTON
*Seattle 4 — King & Occidental Sts.
Mutual 0123 • E. C. McEachron
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Riverside 3151 • W. A. Sparks
*Tacoma 1 — 2112 "A" Street
Main 0166 • R. J. Franzen

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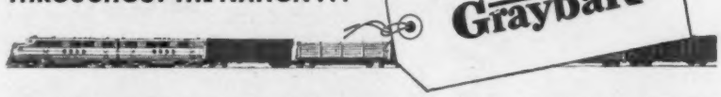

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES

1917. By 1923 he had advanced to general foreman and resident engineer on construction of the classification yard at East St. Louis, Ill., and three years later was named resident engineer on building the Edgewood cut-off. Following service as track supervisor, supervisor of trains and track and trainmaster in Illinois, Kentucky and Iowa between 1928 and 1941, Mr. Willingham, in the latter year, was named superintendent of the Illinois division at Champaign. He became assistant to vice-president and general manager in 1944 and manager of personnel in 1945. In 1949 he became director of personnel.

Martin D. Avent has been appointed assistant to vice-president of the CHESAPEAKE & OHIO at Cleveland (*Railway Age*, June 1). Mr. Avent, who is 40, attended Cleveland College;

Martin D. Avent

joined the C&O 22 years ago at Richmond, Va., and was serving as special assistant in the law department at Cleveland at the time of his recent appointment.

As reported in *Railway Age* June 1, page 89, **R. E. Plummer** and **John B. Reid** have been promoted to assistant vice-presidents in charge of finance of the SOUTHERN PACIFIC at New York, effective July 1. Mr. Plummer is a graduate of New York University. He was employed by the El Paso & Southwestern at the time those lines were acquired by the SP in 1924 and was appointed assistant to controller in 1936, assistant to vice-president in charge of finance in 1942, and controller in 1943. Mr. Reid was graduated as an electrical engineer from Rensselaer Polytechnic Institute in 1925 and holds a master's degree from Harvard Graduate School of Business Administration. He became assistant to vice-president in 1943.

As reported in *Railway Age* June 8, **Ralph C. Trinkner** has been appointed assistant to vice-president (passenger equipment) of the NEW YORK CENTRAL at New York. A native of Cleveland, Mr. Trinkner has been with

(*Continued on page* 136)

Why Railroads Specify

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STEEL GRATING

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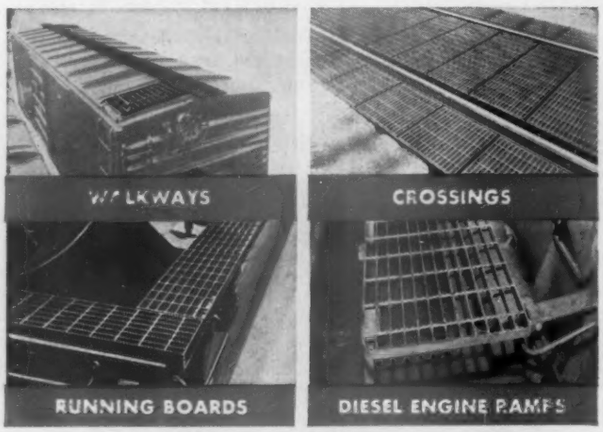

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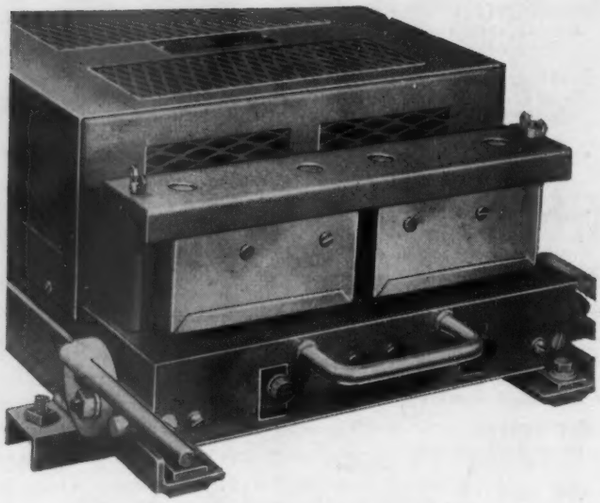

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☑ **Services itself en route**
Patented C-D dual vibrator circuit with instantaneous automatic switch-over assures uninterrupted radio communications en route.

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VIBRATOR CONVERTERS WITH RAILROAD DEPENDABILITY
by the makers of world-famous C-D capacitors

PLANTS IN SOUTH PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER AND CAMBRIDGE, MASS.; PROVIDENCE, R. I.; INDIANAPOLIS, IND.; FUQUAY SPRINGS, S. C.; AND SUBSIDIARY, THE RADIART CORP. CLEVELAND, OHIO

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SEE THE *New*

CONSTANT C-C CONTROL

SCULLIN C-C TRUCK!

See how the new C-C Truck's remarkably simple, compact, constant control assembly saves so much cost, weight and wear. See how it controls both lateral and vertical motion so efficiently, that the C-C set a Lading Damage Index ratio record of only .44 Vertical, only .43 Lateral in official A.A.R. road tests!

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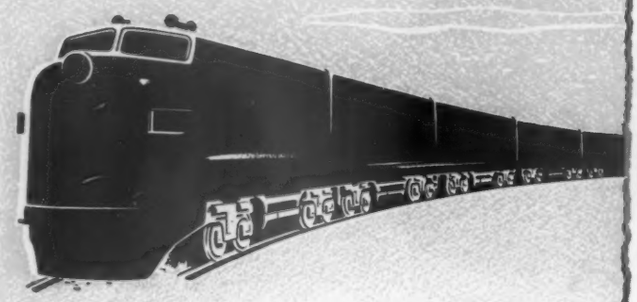
Shell Alvania Grease A



AAR APPROVED

—for journal roller bearings

TROUBLE-FREE LUBRICATION *from* wheelturning to wheelturning

Shell Alvania Grease A is now approved by the Association of American Railroads for the lubrication of journal roller bearings. After thorough testing in passenger service, freight service, and locomotives, there was not a single instance of bearing failure.

Developed specifically for journal roller bearings in railroad service, Shell Alvania Grease A is a high-quality, uniform, heavy-duty lubricant that will give thorough and dependable service.

Today's journal roller bearings require specially compounded lubricants that resist oxidation and have high mechanical stability with superior film strength. Shell Alvania Grease A meets all these requirements.

Your Shell railroad service engineer will be glad to give you complete technical information.

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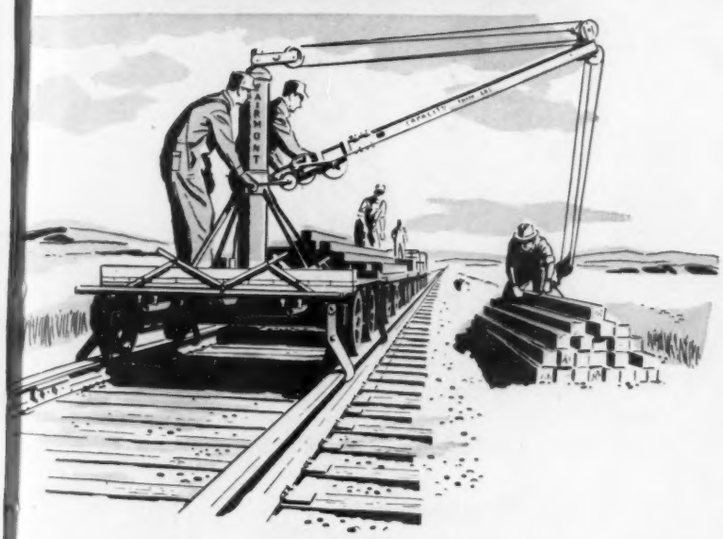
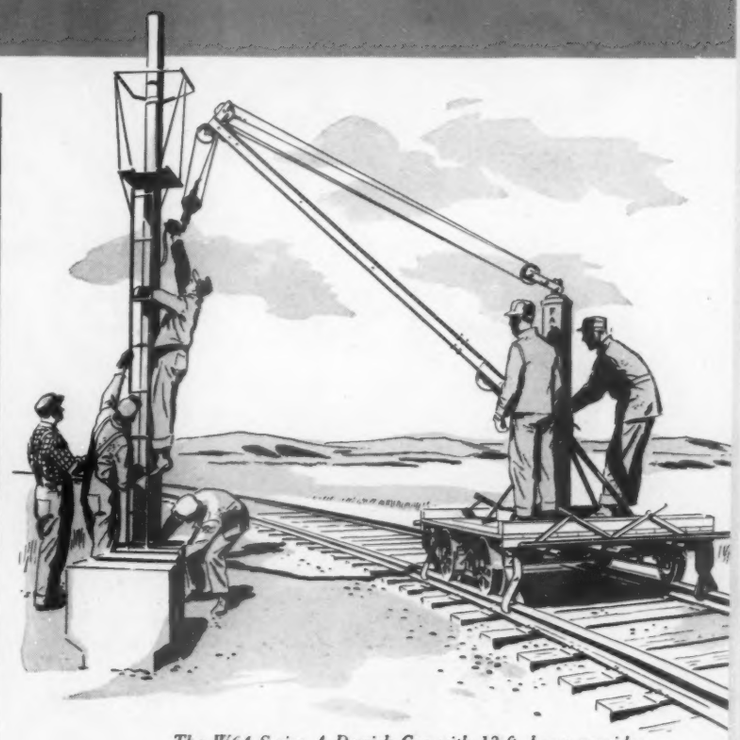
Fairmont

RAILWAY MOTOR CARS AND WORK EQUIPMENT



The W63 Series A Derrick Car features an 8-ft. boom with 360° swing and two-speed operation for both load and boom cables. Especially useful in handling heavy timbers and stringers. Arranged for one or two man operation.



The W64 Series A Derrick Car with 13-ft. boom provides safe, easy and rapid handling of supplies and equipment up to 3000 lbs. Features full 360° pivot, two-speed hoist and boom cables. Can be operated by one or two men.

If there's a job to be done– there's a Fairmont to do it!

Such is the variety of maintenance equipment manufactured by Fairmont—and such the versatility of each individual Fairmont product—that it would be difficult to conceive of a railway maintenance job that would not come within Fairmont's province. In the field of maintenance transportation alone, Fairmont makes available over seventeen different motor cars, ranging from single-man inspection cars to large gang cars designed for the heaviest hauling. The quality and character of these motor cars have brought them industry-wide recognition as the standard of operation everywhere—and the name they bear has come to be synonymous with sound engineering, rugged construction, and unfailing performance. And the same skill and experience that have made Fairmont famous for its motor cars also go into every other piece of track and road-bed equipment that Fairmont produces. Weed control, tie renewal, rail lubrication, ballast maintenance, grouting, and every other conceivable maintenance responsibility have found their finest answer with Fairmont. So whatever your maintenance needs, always call on the world's largest manufacturer of railway motor cars and maintenance equipment. You can rest assured that there's a Fairmont that will do the job better, faster and more economically.

Performance ON THE JOB COUNTS

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

MANUFACTURERS OF INSPECTION CARS, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, MOWERS, BALLAST MAINTENANCE CARS, WEED BURNERS AND EXTINGUISHER CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTFITS, WEED SPRAY CARS, TIE SPRAYERS, TIE REMOVERS, TIE INSERTERS

Streamlite HAIRINSUL

OUTLASTS THE LIFE OF THE CAR

That new refrigerator car coming out of the shop will someday wear out, be sold for scrap or be junked, but the Streamlite Hairinsul originally used in the car can be salvaged to be used again. *It actually outlasts the life of the car!*

Streamlite Hairinsul's high insulating efficiency remains the same year in and year out. Records show where all-hair insulation removed from refrigerator cars after 20 years or more of service, is in like new condition. It does not deteriorate with age. Its salvage value is high.

At right are some additional reasons why Streamlite Hairinsul is the leading car insulation. Write for complete data.

LOW CONDUCTIVITY. Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity — .25 btu per square foot, per hour, per degree F., per inch thick.

LIGHT WEIGHT. Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

PERMANENT. Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

EASY TO INSTALL. Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

COMPLETE RANGE. STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

HIGH SALVAGE VALUE. The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.

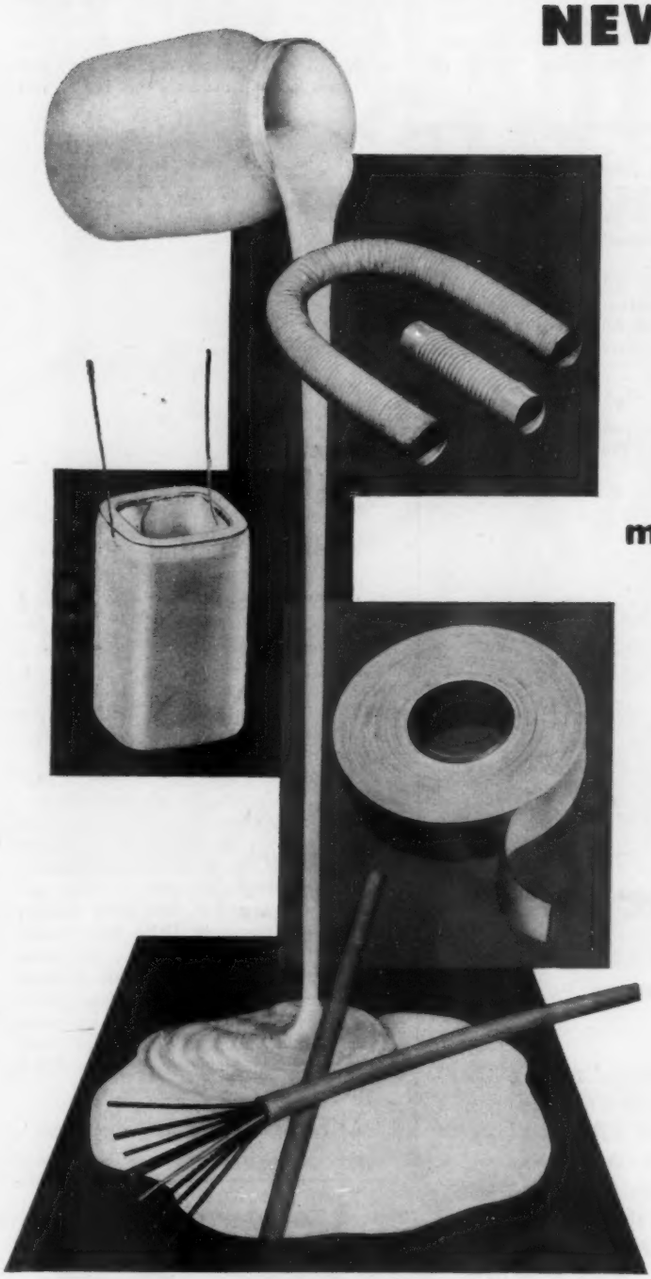
Sets The Standard By Which All Other Refrigerator Car Insulations Are Judged

Streamlite HAIRINSUL

The Standard By Which All Other Refrigerator Car Insulations Are Judged

AMERICAN HAIR & FELT CO.

Dept. H37, Merchandise Mart, Chicago 54, Ill.



NEW

SILICONE RUBBER COMPOUND

for electrical and mechanical applications

SE-100 COMBINES

- **Outstanding heat resistance**
- **Outstanding electrical properties**
- **Outstanding physical properties**
- **Ease of application**

You can now extend equipment life and minimize insulation failures by specifying General Electric's new silicone rubber compound, SE-100.

SE-100 may be coated on glass or organic fabrics for service at high or low temperatures or where resistance to weather, ozone, corona or chemicals is required. In addition, SE-100 is available as a dispersion (SE-100S) and may be used to encapsulate coils and components for electrical insulating purposes.

SUGGESTED USES

Electrical: Cloth, tape and sleeving; coating for glass-served wire; encapsulating coatings.

Mechanical: Ducts and tubing; gaskets and seals; diaphragms.

HERE'S PROOF!

Typical properties of glass cloth coated with SE-100:

Dielectric strength, volts/mil	1200-1400
Power factor, 60 cycles	
85 F	0.0110
212 F	0.0072
Tensile strength, lbs./in. width	150
% Moisture absorption, 96 hrs.	0.11
Serviceable from	−76 to 480 F

G-E silicones fit in your future

GENERAL ELECTRIC

CLIP AND MAIL TODAY!

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Please send me product data on SE-100, list of fabricators, and a free copy of *G-E Silicones for Industry*.

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(In Canada, mail to Canadian General Electric Company, Ltd., Toronto.)

(*Continued from page* 129)
the Central since 1912, when he was first employed as clerk in the Collinwood, Ohio, car shops. He has served as assistant foreman, mechanical inspector at Buffalo, special inspector and general inspector at New York, and since 1951, as special assistant to manager of equipment.

E. Frederic Uhrbrock, Jr., head of the research department of the New York Stock Exchange firm of Vilas & Hickey, has been appointed assistant vice-president of the NEW YORK, NEW HAVEN & HARTFORD, effective July 15. Mr. Uhrbrock will assist in the handling of financial matters and industrial development in New York City, and in Grand Central Terminal matters, and will have other duties as assigned.

H. H. Simms, vice-president, secretary and general traffic manager of the ATLANTA & SAINT ANDREWS BAY, has been elected president. **T. L. Nichols,** general manager, has been elected vice-president in charge of operations.

As reported in *Railway Age* June 15. **A. L. Batts** has been appointed executive vice-chairman of the Freight Claim Division of the ASSOCIATION OF AMERICAN RAILROADS at Chicago. Mr. Batts was born in Duplin county, N.C., and entered railroad service with the Atlantic Coast Line in 1917. He served

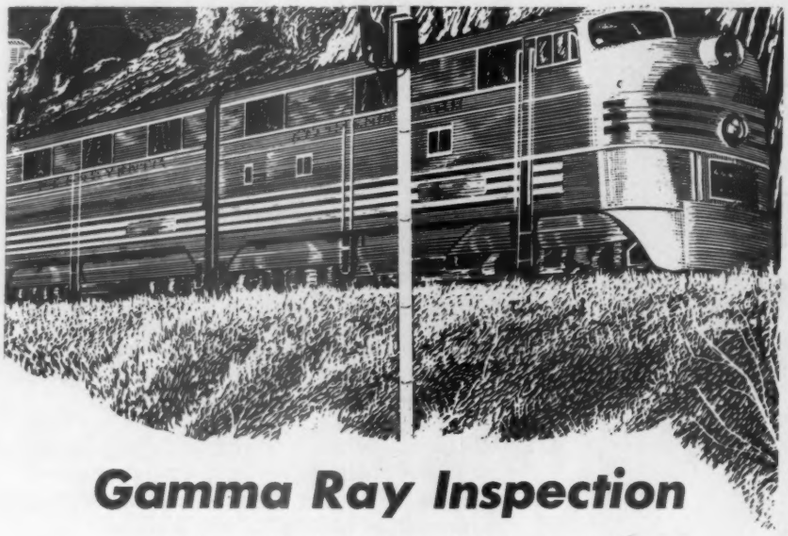
A. L. Batts

in the U.S. Army in 1918 and returned to the ACL in 1919, where he has served continuously in various capacities in the freight claim department. He was named freight claim agent in 1945, which position he held at the time he joined the staff of the A.A.R.

Edward P. Snyder has been appointed assistant to vice-president—finance and accounting of the BALTIMORE & OHIO at Baltimore (*Railway Age*, June 1, page 90). Mr. Snyder was born at Baltimore in 1903 and began working for the B&O freight claim department in 1919, later transferring to the office of senior vice-president. On March 1, 1945, he became chief clerk in the finance department; was appointed assistant to vice-president, finance, August 1, 1947, and had been assistant treasurer at New York since January 15, 1952.

As reported in *Railway Age* June 1,

J. D. Bond, assistant to president and secretary of the Soo Line at Minneapolis, who has been named executive assistant, retaining the position of secretary.



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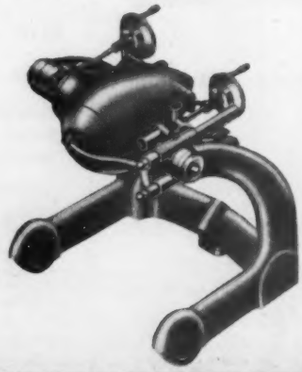
Bringing one of the first industrial benefits of atomic energy, the Gamma Ray Machine radiographs 2% Sensitivity or better through as much as 8" of solid steel to give you true inspection for flaws. The machine is powered with Radioisotopes from the atomic pile. It gives safe non-destructive testing never before offered in any machine at any price. Portable, economical.

Lets You See *Inside* of Your: Locomotive Frames, Wheels, Tires, Siderods, Piston Rods, Water Jackets, Crossheads, Guides, Draw Bars, Car Wheels, Journals, Traction Motor Cables, Truck Sides, Couplers, and other potential trouble spots.



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P. O. BOX 2271 • BATON ROUGE, LOUISIANA

NEW BEAUTY IN ALUMINUM INDUSTRIAL SIDING

Installed by MacArthur Company, one of Reynolds approved jobber-erectors for the Austin Company, General Contractors. See below.*

When the Cochran Foil Company, Louisville, Ky., wanted siding as outstanding in appearance as in performance, the specification was obvious...Reynolds Ribbed Embossed Siding. Here is rustproof, corrosion-resistant aluminum *plus* modern architectural design. Applied cost is low. Maintenance cost is practically nil. Aluminum's heat-reflectivity cuts the cooling cost of the building in summer, cuts fuel cost in winter. Light-reflective inner surface is a well-known extra advantage. For cost-cutting efficiency, specify aluminum. For efficiency *plus new* beauty, make it Reynolds Ribbed Embossed Siding.

DESCRIPTION:

METAL THICKNESS: .032" (22 U.S. Std. Ga.).

FINISH: Stipple-embossed.

LENGTHS: 5', 5½', 6', 6½' and so on to 13½'; also 13'10". Special lengths to order.

WIDTH: Over-all width 33⅝", nominal coverage 32".

RIBS: Pitch 4" center to center, depth 1".

WEIGHT: 59 lbs. per 100 square feet.

*Comprehensive material and installation service on Reynolds Industrial Building Products now available through an approved jobber-erector system. For literature and technical data, call the nearest Reynolds office listed under "Building Materials" in classified phone books of principal cities. Or write to: **Reynolds Metals Company,** Building Products Division, 2040 South Ninth St., Louisville 1, Kentucky.

"MR. PEEPERS" returns September 13th on NBC-TV

REYNOLDS *Lifetime* ALUMINUM RIBBED EMBOSSED SIDING

page 89, **John V. Gilmour** has been promoted to assistant to vice-president in charge of finances of the SOUTHERN PACIFIC at New York. Mr. Gilmour was orginally employed by Southern

John V. Gilmour

Pacific Steamship Lines in 1909, and, after advancing through various positions in the SP accounting department at New York, became assistant controller in 1946.

John T. Ridgely, general real estate agent of the PENNSYLVANIA, has been promoted to assistant vice-president in charge of real estate and taxation at Philadelphia. Mr. Ridgely was born June 9, 1887, at Tyrone, Pa.; following graduation from Lehigh University he began work for the PRR

John T. Ridgely

in 1909. He served as transitman, assistant supervisor, supervisor, division engineer, engineer maintenance of way of the Long Island, division superintendent and general superintendent until April 1946, when he was appointed general real estate agent.

FINANCIAL, LEGAL & ACCOUNTING

As reported in *Railway Age* June 8, **J. E. Paradis** has been appointed manager, real estate department, of the CANADIAN PACIFIC at Montreal. Born in Ottawa, Ont., Mr. Paradis attended Ottawa University (L.Ph., 1930) and was graduated from the University of Montreal in law in 1933. He joined the CPR in 1934 as an assistant solicitor and was appointed assistant manager, real estate department, in 1942.

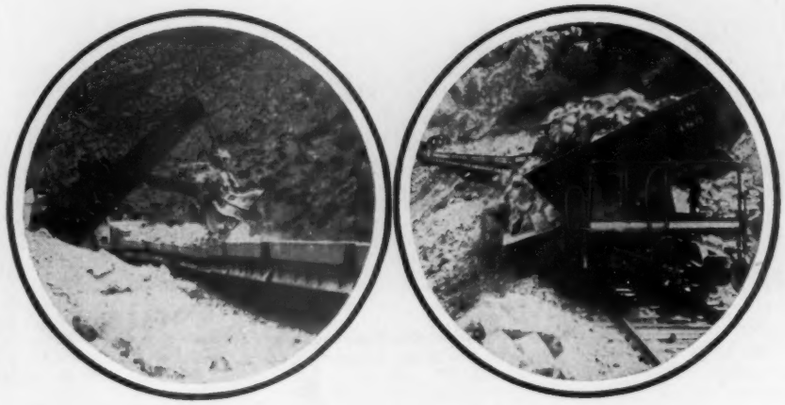
J. F. Bliss, auditor of the ATLANTA & SAINT ANDREWS BAY, has been elected secretary.

The statistical bureau of the SOUTHERN FREIGHT ASSOCIATION, on July 1, became a part of the ASSOCIATION OF SOUTHEASTERN RAILROADS. **John P. Cole** has been appointed statistician and **Robert L. Cornelius** assistant statistician.

Charles R. Phillips, industrial agent of the CHICAGO, INDIANAPOLIS & LOUISVILLE at Chicago, has been appointed cashier at that point.

R. R. Minor, special claim agent of the ILLINOIS CENTRAL, has been named general claim agent at Chicago. **W. B. Johnston,** office manager at that point, has been appointed general claim agent at Memphis, Tenn. Succeeding Mr. Johnston is **W. C. Jones,** claim agent at Memphis. Mr. Jones

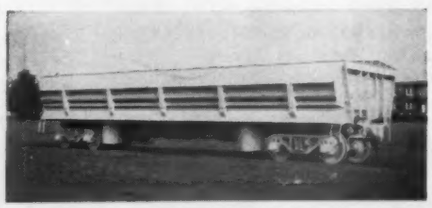
Yes, you're seeing DOUBLE



In fact, when you watch Differential Air Dump Cars in action you're seeing double in several respects —

DOUBLE ACTION — they dump cars both ways, to left or to right. The 50° dumping angle assures a clean dump, and the massive air cylinders (two on each side) assure speedy, reliable dumping power. The double trunnion, double fulcrum design are key features in Differential's amazing performance.

DOUBLE UTILITY — Good for hauling in ore and good for hauling out waste materials. Car is built to withstand abuse and heavy service. If you haul as many as 400 to 500 carloads yearly, the savings with Differential equipment will pay for the cars.



Differential Products Include: Air Dump Cars, Locomotives, Mine Cars, Mine Supply Cars, Rock Larries, Mantrip Cars, Dumping Devices and Complete Haulage Systems

DIFFERENTIAL STEEL CAR COMPANY

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SINCE 1915 — PIONEERS IN HAULAGE EQUIPMENT

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TRADE MARK
OIL

...on more than 70 U.S. railroads

Wide acceptance of STANDARD HD by railway diesel operators is one proof of the ability of this superior diesel-engine lubricant to reduce costs and maintenance. STANDARD HD has been adopted for all types of service—heavy freight haulage, fast passenger runs, or switching. All makes and models of diesel engines are successfully lubricated with STANDARD HD.

You will get the greatest possible engine cleanliness and economy by the use of STANDARD HD on diesel equipment.

You can count on STANDARD HD to help you keep diesel-engine maintenance and operating costs low. Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Ill.

STANDARD OIL COMPANY STANDARD *(Indiana)*

in turn has been succeeded by **E. G. Hosemann,** trainmaster's clerk at Vicksburg, Miss.

OPERATING

A. C. Drui, assistant superintendent dining and parlor cars of the MISSOURI PACIFIC, has been named superintendent dining and parlor cars succeeding **W. F. Ziervogel,** who retired June 30. Mr. Drui has been succeeded by **S. W. Weinberg,** chief clerk. Mr. Drui began his railway career in 1918 with the Terminal Railroad Association of St. Louis, and in 1924 joined the MP as office assistant in the dining car department. He was promoted to chief clerk in 1930; to supervisor dining car service in 1932; and to assistant superintendent in 1945.

Mr. Ziervogel joined the MP in 1907 as a clerk. In 1917 he became a dining car steward, and was subsequently inspector of dining cars, assistant to superintendent and assistant superintendent. He was named superintendent of dining and parlor cars in 1941. Mr. Ziervogel has served several terms as secretary-treasurer of the Association of American Railroad Dining Car Officers.

Charles William Exline, superintendent of the MISSOURI PACIFIC'S **Illinois division and of the MISSOURI-ILLINOIS,** retired June 30. Mr. Exline joined the MP in 1904 as car repairman at Bixby, Ill., subsequently becoming conductor, yardmaster, assistant trainmaster and trainmaster. Previous to his appointment as superintendent of the Illinois division in 1939, he was assistant superintendent of the Memphis division.

Glenn C. Lace, assistant to vice-president of the RAILWAY EXPRESS AGENCY at Chicago, has been appointed general manager, Eastern Lakes department, at Detroit (*Railway Age,* June 8). Mr. Lace began his express career as a platformman at Rockford,

Glenn C. Lace

Ill. He was appointed district manager public relations at Chicago in 1941; in 1945 became manager of air express there, and in 1946 was named superintendent Central Illinois division. He was transferred to the Detroit division in 1950 and in 1951 was appointed assistant to vice-president at Chicago.

William H. Moore, superintendent of the SOUTHERN at Charleston, S.C., has been transferred to Columbia, S.C., succeeding **M. Elwood Tatem,** who has retired after 40 years of service. **John A. Rust,** trainmaster at Greenville, S.C., has been appointed superintendent at Charleston, succeeding Mr. Moore. Mr. Tatem entered Southern service as a brakeman in 1913. In 1935 he was appointed superintendent terminals at Columbia, S.C.; was promoted to assistant superintendent, Columbia division, in 1937; and to superintendent at Columbia in 1938. A photograph and sketch of Mr. Moore were published in *Railway Age,* February 16, 1953, page 55.

In the absence on sick leave of **E. H. Campbell,** terminal superintendent of the MISSOURI PACIFIC at Kansas City, Mo., **J. C. Love,** assistant superintendent, has been appointed acting superintendent; **M. G. Jackson,** trainmaster, has been named acting assistant superintendent; and **W. Crimm** has been appointed acting trainmaster. **J. S. Seifert,** assistant trainmaster at Atchison, Kan., has

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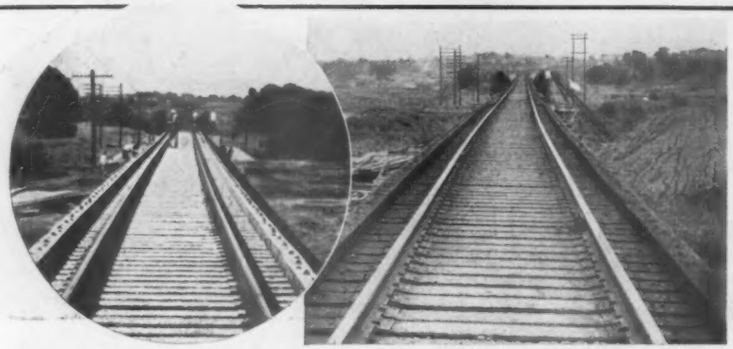

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been advanced to trainmaster at Hoisington, succeeding **R. Hickman,** who has been promoted to assistant superintendent at North Little Rock, Ark., to succeed **F. R. Malott,** newly appointed director of terminals and freight train classification at St. Louis. Mr. Malott succeeds **R. W. Parker,** who has been named superintendent at St. Louis, succeeding **C. W. Exline,** retired.

V. A. Burkhead, trainmaster of the SOUTHERN PACIFIC at Austin, Tex., has been appointed assistant superintendent there.

Harold J. Kuhns, assistant treasurer of the RAILWAY EXPRESS AGENCY, at New York, has been appointed superintendent, Cleveland division, succeeding **Robert A. Miller,** who has been transferred to the Michigan division.

A. James, Jr., assistant superintendent of the LOUISVILLE & NASHVILLE at Louisville, Ky., has been appointed superintendent of the Nashville Terminals of the L&N and the NASHVILLE, CHATTANOOGA & ST. LOUIS, succeeding **J. T. Alexander,** who has resigned to accept the presidency of the HOUSTON BELT & TERMINAL at Houston, Tex. (*Railway Age*, July 6, page 30). **W. R. Winkler,** assistant L&N superintendent at Paris, Tenn., has been transferred to succeed Mr. James. Mr. Winkler in turn has been succeeded by **R. B. Jones,** assistant superintendent at Evansville, Ind. **J. T. Maddox,** trainmaster at Louisville, succeeds Mr. Jones.

TRAFFIC

Frederick M. Klitz, assistant freight traffic manager of the ERIE, has been appointed freight traffic manager, with headquarters as before at Chicago, succeeding **Eric C. Hallberg,** who has been named assistant vice-president (traffic) at New York. **Herbert C. Well,** assistant general freight agent, has been appointed general freight agent, with headquarters as before at Chicago, succeeding **Hugh T. Sweeney,** who has been promoted to assistant freight traffic manager, succeeding Mr. Klitz. **Edwin N. Hambly,** general freight agent, has been appointed assistant freight traffic manager, with headquarters as before at New York. **Thomas W. Kane,** foreign freight agent at New York, has retired at his own request, after 44 years of service.

Mr. Well joined the Erie as a stenographer-clerk in 1926 at St. Louis. He became a commercial agent there in 1939; general agent at Springfield, Ohio, in 1946; division freight agent at Rochester, N.Y. in 1949 and at Elmira, N.Y., in 1951; and assistant general freight agent at Chicago in January 1952.

Mr. Sweeney began his career as a stenographer in the dairy traffic department of the Erie at Chicago in 1906 and advanced to general freight agent there in 1946.

Mr. Hambly was born at Honesdale, Pa., and joined the Erie there as a telegrapher-clerk in 1906. After advancing through various clerical positions in the rates section of the traffic department, he became chief of tariff bureau in New York and Cleveland, successively. He was promoted to assistant general freight agent at New York in 1932 and to general freight agent in 1939.

SPECIAL

As reported in *Railway Age* June 1, **Yerby R. Holman** has been appointed director of personnel of the WESTERN MARYLAND at Baltimore. Mr. Holman, 37, is a graduate of Duke

Yerby R. Holman

University with graduate work at Columbia and Harvard Business School. At the time of his recent appointment with the WM, Mr. Holman was associated with George H. Elliott & Co., management consultants, New York.

Joseph L. Stanton, director of the Export and Import Bureau of the Baltimore Association of Commerce, has been appointed assistant director of public relations of the BALTIMORE & OHIO, effective July 15. He succeeds **J. Carroll Bateman,** who resigned to become vice-chairman of the Eastern Railroad Presidents Conference (*Railway Age*, May 11, page 26).

E. F. Conway, captain of police of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, has been named superintendent of police at Chicago.

OBITUARY

Dwight C. Curtis, retired chief purchasing officer of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Chicago, died July 3 at his home in White Bear Lake, Minn.

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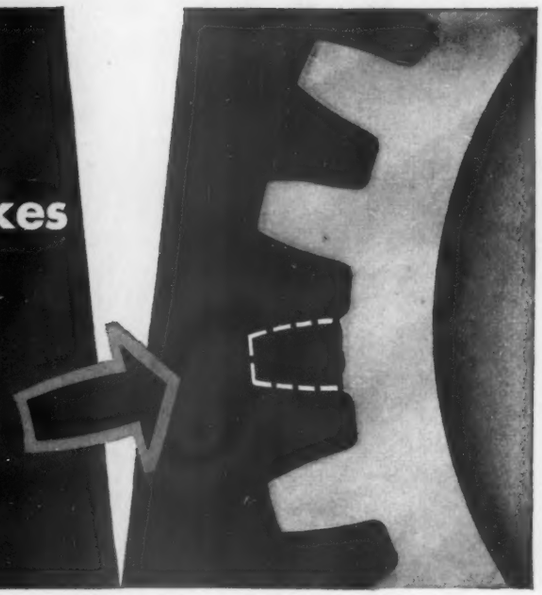

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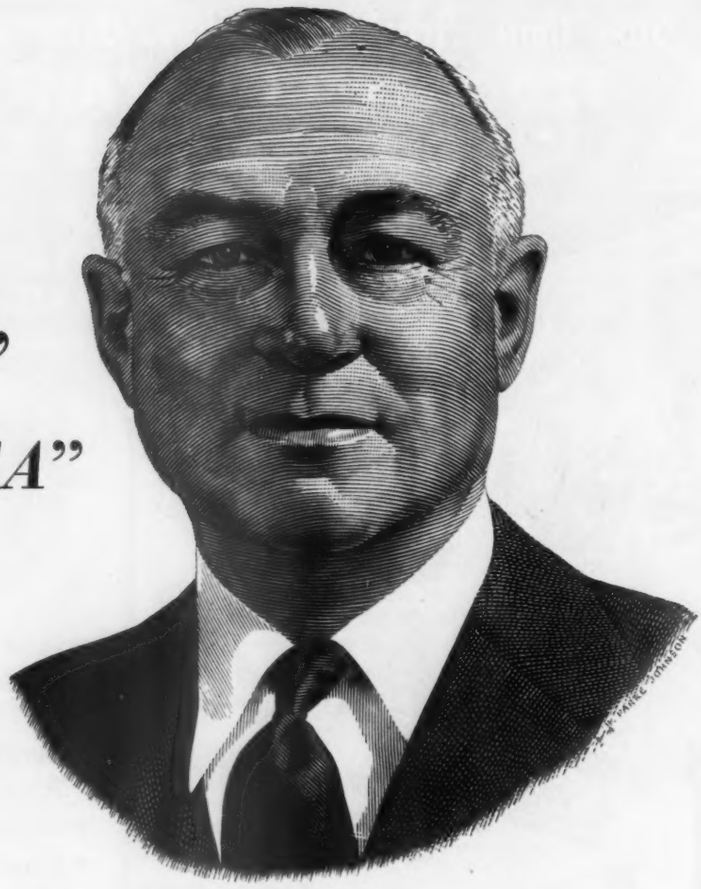

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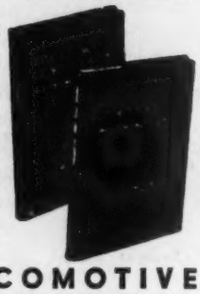

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A

Aeroquip Corporation 74
Agency—Hopcraft-Keller, Inc.

American Hair & Felt Co. 134
Agency—Kirk, Roberts & Thomas, Inc.

American Locomotive Company 36, 37
Agency—G. M. Basford Company

American Steel Foundries 20, 21
Agency—Erwin, Wasey and Company, Inc.

Association of Manufacturers of Chilled Car Wheels 55
Agency—The Schulyer Hopper Co.

B

Bakelite Company, Division of Union Carbide and Carbon Corporation ..... Back Cover
Agency—J. M. Mathes, Inc.

Bethlehem Steel Company 3
Agency—Jones & Brakeley, Inc.

Blaw-Knox Company 130
Agency—Al Paul Lefton Co., Inc.

Buckeye Steel Castings Company, The 22

Budd Company, The 56, 57
Agency—Lewis & Gilman, Inc.

C

C & D Batteries, Inc. 144
Agency—Richard A. Foley Advtg. Agency

California Oil Company, The 69
Agency—Batten, Barton, Durstine & Osborn, Inc.

Canadian Cardwell Co., Ltd. 40
Agency—Van Auken, Ragland & Stevens

Cardwell Westinghouse Co. 40
Agency—Van Auken, Ragland & Stevens

Carey Mfg. Company, The Philip 41
Agency—Farson, Huff & Northlich

Caterpillar 120
Agency—N. W. Ayer & Son, Inc.

Clark Equipment Company 127
Agency—Marsteller, Gebhardt & Reed, Inc.

Cornell-Dubilier Electric Corporation 130
Agency—Friend, Reiss & McGlone Advertising

C-O-Two Fire Equipment Company 58
Agency—G. M. Basford Company

Crane Co. 35
Agency—The Buchen Company

D

Differential Steel Car Company 138
Agency—Coleman Todd & Associates

Dixie Cup Company 122
Agency—Hicks & Greist, Inc.

Dow Chemical Company, The 60
Agency—MacManus, John & Adams, Inc.

E

Eastman Kodak Company 125
Agency—J. Walter Thompson Company

Edgewater Steel Company 53
Agency—Walker & Downing

Edwards Co., Inc., The O. M. 144
Agency—Walker & Downing

Electric Storage Battery Co., The 32, 33
Agency—Geare-Marston, Inc.

Electric Tamper & Equipment Co. 9
Agency—Stevens, Inc.

Electro-Motive Division, General Motors Corp. 19
Agency—Kudner Agency, Inc.

F

Fairbanks-Morse & Co. 23
Agency—The Buchen Company

Fairmont Railway Motors, Inc. 133
Agency—MacManus, John & Adams, Inc.

Federation For Railway Progress 75

G

Gamma Industries, Inc. 136

General Electric Company 36, 37, 135
Agency—G. M. Basford Company

General Railway Signal Company 70

General Steel Castings 114, 115
Agency—Oakleigh R. French & Associates

Graybar Electric Co., Inc. 128, 129
Agency—G. M. Basford Company

Great Lakes Steel Corporation 124
Agency—Campbell-Ewald Co., Inc.

Gould-National Batteries, Inc. 45
Agency—Hutchins Advertising Company, Inc.

H

Hayes Track Appliance Co. 116

Hunt Company, Robert W. 148

Hyatt Bearings Division, General Motors Corp. .. 6
Agency—D. P. Brothers & Company, Inc.

Hyman-Michaels Company 148

Hyster Company 73
Agency—Foote, Cone & Belding

I

Industrial Brownhoist Corporation 54
Agency—Price, Hedrick & Tanner, Inc.

International Harvester Company .. Inside Front Cover
Agency—Leo Burnett Company, Inc.

International Steel Company 10
Agency—W. S. Kirkland Advertising

Iron & Steel Products, Inc. 147

J

Johns-Manville 44
Agency—J. Walter Thompson Company

K

Kinnear Manufacturing Co., The 64
Agency—Wheeler, Kight & Gainey, Inc.

L

Luria Steel and Trading Corp. 148

M

Magnus Metal Corporation, Subsidiary of National Lead Corporation 28, 29
Agency—Rickard & Company, Inc.
Met-L-Wood Corporation 113
Agency—Armstrong Advertising Agency
Mississippi Valley Equipment Co. 148
Mobilift Corporation 66
Agency—Don Allen & Associates

N

National Bearing Division, American Brake Shoe Company 30, 31
Agency—Fuller & Smith & Ross, Inc.
National Malleable and Steel Castings Company ..67, 76
Agency—Palm & Patterson, Inc.
National Steel Corporation 124
Agency—Campbell-Ewald Co., Inc.

O

Okonite Company, The 78
Agency—Doyle, Kitchen & McCormick, Inc.
Oxweld Railroad Service Company, Division of Union Carbide and Carbon Corp. 34
Agency—J. M. Mathes, Inc.

P

Pittsburgh Plate Glass Company 65
Agency—Maxon, Inc.
Portland Cement Association 26
Agency—Roche, Williams & Cleary, Inc.
Pressed Steel Car Company, Inc. 42, 43
Agency—Albert Frank-Guenther Law, Inc.
Pullman-Standard Car Manufacturing Company ..24, 25
Agency—Fuller & Smith & Ross, Inc.

R

Railroad Supply and Equipment Inc. 62
Railway Educational Bureau, The 147
Railway Steel-Spring Division, American Locomotive Company 51
Agency—Hazard Advertising Company
Ramapo Ajax Division, American Brake Shoe Company 118
Agency—L. W. Ramsey Company
Reynolds Metals Company 137
Agency—Buchanan & Company, Inc.
Rust-Oleum Corporation 63
Agency—O'Grady-Andersen-Gray, Inc.

S

Scullin Steel Company 131
Agency—Batz-Hodgson-Neuwoehner Advertising Agency
Shell Oil Company 132
Agency—J. Walter Thompson Company
Sherwin-Williams Co., The 39
Agency—Fuller & Smith & Ross, Inc.
Simmons-Boardman Publishing Corp. 146, 148
Simmons Company, Simtex Mills Division 141
Agency—Ellington & Company, Inc.
Speno Railroad Ballast Cleaning Co., Inc., Frank .. 144
Agency—Laux Advertising, Inc.
Standard Oil Company of California 69
Agency—Batten, Barton, Durstine & Osborn, Inc.
Standard Oil Company (Indiana) 139
Agency—McCann-Erickson, Inc.
Standard Oil Company of Texas 69
Agency—Batten, Barton, Durstine & Osborn, Inc.
Standard Railway Equipment Manufacturing Company 59
Agency—W S. Kirkland Advertising
Superheater Company, The 68
Agency—G. M. Basford Company

U

Union Asbestos & Rubber Company 48, 143
Agency—William Hart Adler, Inc.
Union Switch and Signal 4
Agency—Batten, Barton, Durstine & Osborn, Inc.
United States Envelope Company 38
Agency—Wm. B. Remington, Inc.
United States Rubber Company ....Inside Back Cover
Agency—Fletcher D. Richards, Inc.

V

Vapor Heating Corporation 126
Agency—William Hart Adler, Inc.

W

Waugh Equipment Company 27
Western Railroad Supply Co. 145
Agency—L. H. Gross & Associates
Westinghouse Air Brake Company 61
Agency—Batten, Barton, Durstine & Osborn, Inc.
Westinghouse Electric Corporation 46, 47, 50
Agency—Fuller & Smith & Ross, Inc.
White Mfg. Co. 142
Agency—Suhl Advertising Agency
Whiting Corporation 49
Agency—Waldie & Briggs
Wine Railway Appliance Co., The .....Front Cover
Agency—Beeson-Reichert, Inc.

Y

Youngstown Sheet and Tube Company, The 52
Agency—The Griswold-Eshleman Co.

Z

Zone Company, The 140
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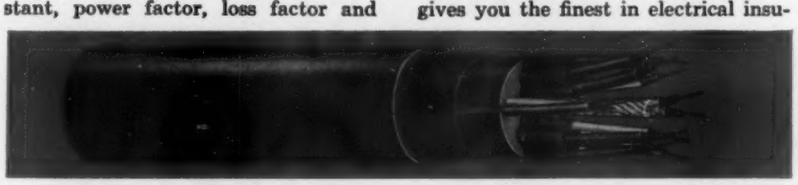

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